5th Congress of Medical Simulation and Education for Students and Young Doctors

ABSTRACT BOOK

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BASIC SCIENCE I

TITLE: IS SB 334867, AN OREXIN 1 RECEPTOR ANTAGONIST AFFECTING AN ANTIEPILEPTIC DRUG, ETHOSUXIMIDE, IN CHEMICALLY INDUCED SEIZURE TEST IN MICE?

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Introduction: Epilepsy is one of the most known neurological disease in the world. It comes from abnormal, excessive and synchronized neuronal discharges in the brain. The number of people suffering from this disease reaches over 60 million. In addition, more than 30% of people affected by epilepsy is drug resistant. Pharmacological methods are the most known medications against epilepsy, but considering the increasing resistance to antiepileptic drugs in patients with epilepsy, there is a necessity to discover new possibilities and substances, which can be useful in the treatment of epilepsy. The mechanism by which ethosuximide (ETX) affects neuronal excitability includes a blockade of T-type calcium channels in thalamic neuronal cells. This results in stopping the generation of absence seizures. Pentylenetetrazole (PTZ) is used to study seizure phenomena and to identify pharmaceuticals that may control seizure susceptibility. It binds to the GABA-A receptor, as well as increases calcium influx and sodium influx, both of which depolarize the neuron.

Aim of study: The target of this study was to rate the influence of SB 334867, an orexin 1 receptor antagonist, on the anticonvulsant effect of ETX in PTZ-induced seizure test in mice.

Material and methods: Swiss male mice were used. The animals received SB 334867 in a dose of 2.5 mg/kg in combination with ETX in ranged doses from 50 to 84 mg/kg, both treatments being injected intraperitoneally. After drug application, the convulsive activity was induced with PTZ subcutaneous injection.

Results: SB 334867 in dose of 2.5 mg/kg combined with ethosuximide (50-84mg/kg) has not changed its anticonvulsant action.

Conclusions: SB 334867, an orexin 1 receptor antagonist, did not modify the anticonvulsant potential of ethosuximide.

TITLE: EFFICIENCY OF WEB APPLICATION AND SPACED REPETITION ALGORITHMS AS AN AID IN PREPARING TO PRACTICAL EXAMINATION OF HISTOLOGY.

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Introduction: Educational methods evolve with development of technology. Students in medical disciplines are looking for new learning strategies. Computer applications are becoming more popular as they use a variety of strategies to improve efficiency of study. One of them are spaced repetition algorithms like SuperMemo.

Aim of study: We conducted this study to evaluate impact of using web application on the results of histology practical exam. We also want to check if the SuperMemo-based algorithm is a useful tool in medical education.

Material and methods: We prepared web application which shows the photography of histological slide to recognize. Students had to decide if they have known the answer or not (by clicking proper button) and the program was measuring time of each answer. Then the algorithm allocated new slide to display. Users were randomly divided into two groups: - study – where the slides were displayed in the order of SuperMemo2-based algorithm (difficult slides were shown more frequently), - control – where the slides were displayed randomly. Quality of the students answers was evaluated according to the 6-steps scale, where 0 means incorrect answer, and from 1 to 5 – correct answer depending on time. We also took into consideration results of official histology practical exam. For the calculations we used standard statistical methods. The level of statistical significance was set at $p<0.05$.

Results: The study involved 79.4% of students approaching the exam. The study group (n=98) and control (n=106) were similar in terms of the average number of responses in application (901 vs 858; p=0.73). The average usage time of the application for a single student was about 1 hour and 45 minutes. We have shown a statistically significant difference which indicate obtaining higher examination results by students who used our application. The average exam score on a scale of 0-15 points among students who used the application was 11.8, while among students who did not: 10.98 (Mann-Whitney U test: U=3688; Z=2.4213; p=0.016). The study showed also no superiority of spaced repetition algorithm over the random allocation of slides, based on the examination results (11.7 vs 11.9; p=0.73).

Conclusions: The study involved 79.4% of students approaching the exam. The study group (n=98) and control (n=106) were similar in terms of the average number of responses in application (901 vs 858; p=0.73). The average usage time of the application for a single student was about 1 hour and 45 minutes. We have shown a statistically significant difference which indicate obtaining higher examination results by students who used our application. The average exam score on a scale of 0-15 points among students who used the application was 11.8, while among students who did not: 10.98 (Mann-Whitney U test: U=3688; Z=2.4213; p=0.016). The study showed also no superiority of spaced repetition algorithm over the random allocation of slides, based on the examination results (11.7 vs 11.9; p=0.73).

TITLE: INFLUENCE OF PNEUMOCOCCAL POLYSACCHARIDES VACCINE STIMULATION ON LYMPHOCYTE SUBPOPULATIONS AMONG PATIENTS WITH CHRONIC LYMPHOCYTIC LEUKEMIA (CLL).

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Introduction: Chronic Lymhocytic Leukemia (CLL) is an example of secondary immunodeficiency. Leukemic lymphocytes in CLL are characterized by CD19, CD20, CD5, CD 23 and low expression of immunoglobulines on surface. Activation of B lymphocytes in CLL is achieved by antigen stimulation on specific receptor but usually it does not cause proliferation of cells. Ability to induce apoptosis is reduced in the leukemic cells and CD95 expression is lowered.

Aim of study: The objective of the research is the analysis of influence of PPV23 stimulation on amount of basic subpopulations and activated lymphocytes and on expression of CD95 marker.

Material and methods: A study group of 15 subjects with CLL, with an average age of 64.9±9.1 years, patients of Immunology Dept. at Clinical Hospital No. 4 in Lublin was recruited. 10 of them was in stage 0 and 5 of them in stage 1 in Rai classification. None of them was taking immunosuppressive, immunomodulative or steroid treatment within the last 2 months and complained of ailments characteristic of the current infection. Blood sample (30 ml) taken from basilica vein into EDTA tubes was research material. Assessment of immunophenotype and isolation was perform immediately. Three-colour immunofluorescence analyses were performed using a FACS Calibur flow cytometer (Becton Dickinson) equipped with 488 nm argon laser. Statistical analysis was performed using Statistica 10.0 (Stat Soft Inc.) software. The Local Ethical Committee at the Medical University of Lublin approved the research and patients gave their prior written consent

Results: There was significant higher amount of CD3+CD69+ lymphocytes in PPV23 stimulated cell culture (p=0.004 after 24h, p=0.012/48h, p=0.022/72h). The same relation occur in CD3+CD25+ subpopulation (p=0.021/24h, p=0.01/72h), CD19+CD69+ (p=0.003/24h, 0.025/48h, 0.012/72h) and CD19+CD25+ (p=0.003/24h). Expression of CD95 was significantly higher in CD3+ lymphocytes after PPV23 stimulation (p=0.003/24h, p=0.016/48h) and in CD19+ lymphocytes after PPV23 stimulation (p=0.003/24h, p=0.015/48h, 0.006/72h).

Conclusions: PPV23 stimulation lead to increase of immunological activation markers especially on T lymphocytes which may indicate their function preserved despite leukemia. PPV23 stimulation caused increase of CD3+CD95+ and CD19+CD95+ compared to non-stimulated cell cultures which may indicate induction of leukemic cells apoptosis by PPV 23 stimulation.

TITLE: MEASUREMENT OF BODY FAT DEVELOPMENT BY USING BODYMETRIX ULTRASOUND METHOD.

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Introduction: The issue of measuring body composition expands rapidly not only for purely medical reason but which is not surprising for widely evolving "health and beauty" lifestyle. This entails necessity of using relatively inexpensive and simple method, that can show us regional development of muscle and fat tissue. The BodyMetrix method use ultrasound waves to penetrate the tissue and detect the reflections that occur at different tissues boundaries. Obvious advantage is constancy of measurements regardless of alcohol or hydration level.

Aim of study: The aim of the study was to confirm that regional and overall body fat estimation by using ultrasound method is accurate and repeatable method in young population of students.

Material and methods: To this study we included 26 young students from regional high-school next divided into two sub-groups by gender. The first group include 14 men with average age of 19,35 ± 2,2. The second group consist of 12 women with average age of 17,41 ± 0,51. The device used to perform the study was BodyMetrix ultrasound system and BodyViewProFit software. The following parameter were obtained: Body fat, fat thickness measured in: thigh, subscapular, chest, waist, triceps, hips, axillary and BMI.

Results: The two groups did not differ statistically BMI 21,35 ± 2,53 kg/m2. Due to physiologically more developed fat tissue in women all parameters were more or less great in female sub-group. Difference in overall body fat were (20,95±3,47% in woman group vs 9,68±1,72% in man p<0,00001). The biggest difference can be seen in thickness of fat tissue measured in thigh (9,27±3,63mm in women vs 5,67±1,53mm in man group p= 0,019), waist (11,03±4,27mm in woman vs 6,77±1,8mm in man p=0,0018) and triceps (9,78±2,8mm vs 4,9±1,45mm p<0,00001). Sexual differentiations were noted also in fat thickness in chest region (6,0±1,61mm in women vs 4,78±1,32mm in man p=0,04) and hips (8,17±2,74mm in woman vs 5,9±1,37mm in man p= 0,023). The smallest differentiation were observed in subscapular region: (6,68±2,74mm in woman vs 5,58±1,21mm in man p= 0,11).

Conclusions: Study shows the differentiation in fat tissue development due to anthropological adaptations. Results indicate that ultrasound method is useful for estimate regional tissue development in young population.

TITLE: PPV23 STIMULATION IMPACT ON SELECTED TLR EXPRESSION ON LYMPHOCYTES IN PATIENTS WITH CHRONIC LYMPHOCYTIC LEUKEMIA (CLL).

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Introduction: Chronic Lymhocytic Leukemia (CLL) is an example of secondary immunodeficiency. Toll-like receptors (TLR) are responsible for antigens recognition and activation of lymphocytes. TLR-2, TLR-4 and TLR-9 are particularly involved in the anti-infectious response. Leukemic lymphocytes may have altered expression of TLR and that can cause either lowered immune response or promotion of leukemic cells growth.

Aim of study: The objective of the research is the analysis of influence of PPV23 stimulation on TLR-2, TLR-4 and TLR-9 expression on mononuclear cells among patients with Chronic Lymphocytic Leukemia.

Material and methods: A study group of 15 subjects with CLL, with an average age of 64.9±9.1 years, patients of Immunology Dept. at Clinical Hospital No. 4 in Lublin was recruited. 10 of them was in stage 0 and 5 of them in stage 1 in Rai classification. None of them was taking immunosuppressive, immunomodulative or steroid treatment within the last 2 months and complained of ailments characteristic of the current infection. Blood sample (30 ml) taken from basilica vein into EDTA tubes was research material. Assessment of immunophenotype and isolation was perform immediately. Three-colour immunofluorescence analyses were performed using a FACS Calibur flow cytometer (Becton Dickinson) equipped with 488 nm argon laser. Statistical analysis was performed using Statistica 10.0 (Stat Soft Inc.) software. The Local Ethical Committee at the Medical University of Lublin approved the research and patients gave their prior written consent.

Results: There was significant lower amount of T CD3+TLR2+ lymphocyte after PPV23 stimulation after 72h ($p=0.013$), significant lower amount of B CD19+TLR2+ cells after 48h ($p=0.008$) and 72h ($p=0.005$) compared to non-stimulated cells. Lower amount of T CD3+TLR4+ after 24h ($p=0.011$) and 72h ($p=0.004$), B CD19+TLR4+ after 24h ($p=0.005$), 48h ($p=0.01$) and 72h ($p=0.005$) was observed. There was no significant differences in T CD3+TLR9+ and CD19+TLR9+ after stimulation.

Conclusions: Antigen stimulation lead to decrease number of T CD3+TLR2+ and T CD3+ TLR4+ compared to non-stimulated cells. This may suggest the stimulation of the immune response which is manifested by receptors internalization. Lowered amount of B CD19+TLR2+ and B CD19+TLR4+ may suggest PPV23 influence on those cells, however, it is smaller than in the case of T cells.

TITLE: PSYCHOACTIVE SUBSTANCE INTOXICATION AS A INCREASING PROBLEM IN LUBLIN PROVINCE IN A LAST YEARS.

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Introduction: Psychoactive drug, is a chemical substance that changes brain function and results in alterations in perception, mood, or consciousness. Psychoactive substances often bring about subjective changes in consciousness and mood that the user may find rewarding and pleasant or advantageous and are thus reinforcing. Substances which are both rewarding and positively reinforcing have the potential to induce a state of addiction. Number of hospitalizations after the use of these substances shows, how dangerous they can affect our organism. Especially dangerous, may be so called 'desinger drug'- a structural or functional analog of a controlled substance that has been designed to mimic the pharmacological effects of the original drug, while avoiding classification as illegal and/or detection in standard drug tests.

Aim of study: Aim of the study is to analyse tendency in a number of hospitalizations caused by psychoactive substances intoxication at the Department of Toxicology and Cardiology in Lublin in last years.

Material and methods: Data comes from yearly reports, made by the Department of Toxicology and Cardiology in Lublin.

Results: In last years, number of hospitalizations, after the use of psychoactive substances increased. In a year 2013 doctors at the Department of Toxicology and Cardiology had to deal with 133 cases of intoxication. In a 2016, total number of hospitalizations was 233. The most cases were registered in a year 2015 – 258 hospitalizations. Most of the patients were men – in a year 2016 190 patients were men and only 40 women. Percantage of men varied from 69 % in a year 2013 to 82 % in 2016. The percentage of a woman had decreasing tendency. Average age of a hospitalized patient had increasing tendency – in 2013 it standed at 24,3 and in 2016 at 25,7. Fortunately, percentage of underaged patients decreased from 31 % in 2013 to 7,8 % in 2016. The dominating age group was 8-25 years (45 to 51%) The age group in which we observed the biggest increasing tendency was 26-40 years (from 26 % in 2013 to 41 % in 2016).

Conclusions: Psychoactive substance intoxication is an increasing problem in our region. In a four years number of cases almost doubled. The substances that cauce intoxication are 'typical' drugs, such as amphetamine, as well as 'designer drugs'. Designer drugs are a serious problem, because doctors don't know which substances contains a drug. There is no specific antidote, and the treatment is symptomatic. Positive conclusion from this study is that percentage of a underaged patients decreased in last years. Very important goal for the next years is to decrease total numbers of intoxications.

TITLE: THE INFLUENCE OF METFORMIN, AN ANTIDIABETIC DRUG, ON THE ANTICONVULSANT EFFECT OF VALPROATE IN PSYCHOMOTOR SEIZURE TEST IN MICE.

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Introduction: Epilepsy is a chronic neurological disorder characterized by recurrent epileptic seizures. Seizure result from the excessive activity of neurons in the cerebral cortex. The causes of epilepsy can be different, usually have a structural, metabolic or genetic background. Furthermore, an oxidative stress is likely implicated in the initiation and progression of epilepsy. Around 50 million people are suffering from epilepsy in the world and about 400 thousand - in Poland. In spite of many modern drugs introduced into treatment of epilepsy, there are about 30-40% of patients whose epileptic seizures are not satisfactorily controlled. Consequently, experimental research is aimed at finding substances which are able to inhibit epileptogenesis. Metformin is a biguanide derivative, which is widely used in the treatment of type 2 diabetes mellitus. The recent data show that action of metformin is associated with AMP-activated protein kinase (AMPK). The expression level of AMPK is decreased in the brain tissue after acute and chronic seizures. There are also experimental data confirming that metformin has antioxidant properties. Therefore, this substance has received considerable attention in epilepsy treatment. Valproate is a first-generation antiepileptic drug. Valproate has a broad spectrum of anticonvulsant activity, although it is primarily used as a first-line treatment for many types of seizures. The mechanisms of actions are: a blockade of voltage-gated sodium channels, inhibition calcium T-channels and increase in brain levels of gamma-aminobutyric acid (GABA).

Aim of study: The aim of the present study was to evaluate the impact of metformin on the anticonvulsant activity of valproate.

Material and methods: This experiment was carried out on Swiss male mice. The rodents were divided into 2 groups. Both of them received valproate 30 minutes before the test. The experimental group additionally received metformin in a dose of 150 mg/kg, 60 minutes before the test. Metformin dose used in this study was determined in the convulsive threshold test. All drugs were administered intraperitoneally. After drug application, the psychomotor seizure test was carried out in mice. The seizure activity was induced by the stimulus delivered via corneal electrodes.

Results: Metformin in a dose of 150 mg/kg in combination with valproate led to the slight decrease of its anticonvulsant activity. However, this results was not statistically significant.

Conclusions: The results obtained indicate that metformin did not modulate the anticonvulsant effect of valproate. Thus, metformin can be used safely in the treatment of diabetes mellitus type 2 in patients with epilepsy, receiving valproate.

TITLE: QUANTITATIVE ASSESSMENT OF METAMORPHOPSIA USING MCHARTS IN PATIENTS WITH CENTRAL SEROUS CHORIORETINOPATHY.

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CO-AUTHORS:

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Introduction: Central serous retinopathy (CSR), is an eye disease which causes visual impairment, it is mostly temporary, usually in one eye. When active it is characterized by leakage of fluid under the retina, especially in macular area. The prognosis is good, most patients regain vision within 6 months, however reduced visual acuity may persist after the fluid has disappeared.

Aim of study: Quantitative assessment of metamorphopsia using M-charts in patients with central serous chorioretinopathy, based on 4 month study.

Material and methods: Studied group contains 19 patients. The average age was 31-years. Each patient had the following examinations performed: visual acuity for distance and near vision, M-charts – used vertically and horizontally and optical coherence tomography (OCT). All tests were carried out 3 times: immediately after first symptoms, after one month and after three consecutive months.

Results: Considerable improvement in the degree of metamorphopsy in both directions - the horizontal (0.45 to 0.26) and vertical (0.43 to 0.25) was noticed between the first and last examination. There has also been a significant reduction in retinal thickness of 386 to 290 micrometers.

Conclusions: 'M-charts' is the simple examination method used for metamorphopsia assessment in macular diseases. They can be used in the follow-up of patients with central serous retinopathy over a long period of time.

TITLE: Tγδ lYMPHOCYTES IN MULTIPLE SCLEROSIS – PRELIMINARY RESULTS

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Introduction. Multiple sclerosis is a chronic inflammatory and demyelinating disease of central nervous system. Despite years of scientific efforts undertaken worldwide its pathology is still a mystery. Tγδ lymphocytes were found to be somehow involved in immunopathogenesis of multiple sclerosis, their potential in IL-17 (a primary cytokine linked to autoimmunity) production during disease course is unknown.

Aim. Assessment of Tγδ percentage and IL-17 production by Tγδ during multiple sclerosis.

Material and methods. 4 patients with relapsing-remitting multiple sclerosis and 6 healthy controls voluntarily donated peripheral blood sample. Samples were stained with anti-human TCRγδ FITC, CD3 PE-Cy5, RORγT PE, IL-17 PE and IL-23R PE antibodies and afterwards analysed by flow cytometry. This study utilised a standard, whole-blood assay with erythrocyte cell lysis for preparation of the peripheral blood specimens. Statistica 12 was used for statistical analysis.

Results. Tγδ comprised 3.03±1.64% of total T lymphocytes in experimental while 5.16±2.60% in control group. Among Tγδ 3.03±3.94% expressed IL-17, 24.60±22.33% IL-23R and 13.60±15.12% RORγT while in control group it was respectively 3.87±6.28%, 3.19±1.33% and 4.50±5.42%. Only expression of IL-23R differed significantly among groups with p=0.02 (U-Mann Whitney test).

Conclusions. Preliminary results indicate differences in functional state of Tγδ lymphocytes during multiple sclerosis. A larger number of samples is needed for definitive conclusion.

TITLE: THE ASSESSMENT OF REAL-TIME PCR USEFULNESS DURING QUANTIFICATION OF EBSTEIN-BARR VIRUS IN ISOLATED PERIPHERAL BLOOD MONONUCLEAR CELLS AMONG IMMUNOCOMPROMISED PATIENTS.

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Introduction: Large prevalence of EBV carrier state in human population, as long as undeniable oncogenic potential of the virus determines high attention payed to this topic. Serological test remains the standard medical procedure performed during EBV detection. Recent development of molecular biology enables improvement of diagnostic process, which is essential for immunocompromised patients. Real-time PCR is gaining more and more followers, because of proper patient's condition assessment, therapy and monitoring.

Aim of study: The assessment of real-time PCR usefulness during quantification of Ebstein-Barr virus in isolated peripheral blood mononuclear cells among immunocompromised patients.

Material and methods: The EBV DNA detection was performed among the diseased (50) and healthy (15) groups of people. Diseased group was divided according to their diagnosis into two groups: leukopenia-group and lymphoproliferative-disease-group. From collected blood samples there were isolated mononuclear cells using density gradient centrifugation method. Such prepared material was used to perform real-time PCR. Real time amplification of the product enabled the assessment of EBV DNA prior concentration. Complete blood count was done in each person as well as antibody titer. The usefulness of method was assessed on the collected results and statistical analysis was performed using Statistica 10 PL programme.

Results: The collected results were repeatable and compatibile with patients' clinical condition and enabled the evaluation of EBV infection status especially among immunocompromised patients with unclear serological test results. The research was properly conducted, according to standard curve parameters. Using isolated mononuclear cells during real-time PCR provided high sensitivity and little amount of viral copies could be detected, which is diagnostically important.

Conclusions: Real-time PCR is particularly useful diagnostic method in EBV infection. Quantification of viral copies in tested samples enables proper assessment of patient's condition and legitimate therapy, especially among the immunocompromised patients group.

BASIC SCIENCE II

TITLE: INFLUENCE OF SB334867 ON THE ANTICONVULSANT EFFECT OF VALPROATE IN THE PENTYLENETETRAZOL SEIZURE MODEL IN MICE

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Introduction: Epilepsy is one of the serious neurological diseases, characterized by recurrent seizures. Its average frequency is about 50/100,000 per year. Epilepsy in most cases is well controlled, but about 20-30% patients suffers from drug-resistant epilepsy, that cannot be controlled with the available antiepileptic drugs. Consequently, there is a need to search for new treatment options. Orexin is a neuropeptide synthesized by the neurons of the lateral part of the hypothalamus. It is responsible for the processes of sleep and wakefulness, memory, reaction to stress, learning and energy expenditure. SB334867 is a selective orexin 1 receptor antagonist. Valproate (VPA) is one of commonly used antiepileptic drug that has three mechanisms of actions: blockade of the inflow of sodium ions to neurons, intensification of the inhibitory activity of GABA and inhibition of excitatory activity of glutamate.

Aim of study: The aim was to evaluate the influence of SB 334867 on the anticonvulsant effect of VPA in the pentylenetetrazol (PTZ) seizure model in mice.

Material and methods: The experiment was carried out on Swiss male mice, that were divided into control and experimental group. Control group received VPA alone. Mice in experimental group received VPA combined with SB 334867 in a dose of 2.5 mg/kg. Convulsive activity was induced when the peak concentrations of the delivered substances were achieved. PTZ was administered in a dose 100 mg/kg (its CD97 dose). Mice were observed for 30 min for the occurrence of seizures.

Results: SB 334867 in a dose of 2.5 mg/kg did not significantly augment the anticonvulsant activity of VPA which was reflected by no significant change in the ED50 value of this antiepileptic drug.

Conclusions: SB 334867 did not significantly augment the anticonvulsant activity of VPA.

TITLE: INCREASE IN ELASTIC LAMINAE AND TUNICA MEDIA THICKNESS AFTER CHRONIC WHEY PROTEIN SUPPLEMENTATION.

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Introduction. Bee pollen is one of bee products, it is composed of plants pollens – mostly anemophilous, but also entomophilous. It is a rich source of vitamins, macro- and micro-elements and amino acids (including essential). Due to high protein and carbohydrates content it is potentially a good supplement for physically active people. We assumed due to rich composition and natural origins it is probably better for human health than whey proteins supplementation. Bee pollen has anti-hypertensive properties, similarly low doses of whey proteins.

Aim. Comparison of health effect of bee pollen and whey protein supplementation.

Methods. 15 Wistar rats were divided into 3 groups – control group, bee pollen supplemented group and whey protein supplemented group. During 8 weeks they received water and food ad libitum, both supplemented groups was also receiving either bee pollen or whey protein. After 8 weeks they were decapitated and organs were collected, embed in paraffin blocks. 5µm thick histological slices were stained according to standard H&E protocol and evaluated under microscope. CellSens Standard was used for all measurements. Statistical analysis was performed with Statistica 12, level of significance was set at $p<0.05$.

Results. Visual analysis revealed no significant differences between groups. Measurement of elastic laminae thickness (within tunica media) revealed significant differences between groups ($p=0.0001$, Kruskal-Wallis test): 2.59±0.65µm (control), 2.80±0.66µm (whey protein supplemented) and 2.32±0.52µm (bee pollen supplemented). Similar results were obtained for tunica media thickness ($p=0.0001$, Kruskal-Wallis test) - 97.01±25.17µm (control), 111.05±19.11µm (whey protein supplemented) and 93.12±9.69µm (bee pollen supplemented)

Conclusions. Elastic laminae and tunica media thickening was observed in whey protein supplemented group. Concomitantly a slight decrease in their thickness was observed in bee pollen supplemented rats.

TITLE: THE INFLUENCE OF NICOTINE AND OLEAMIDE ON MICE CARDIAC MUSCLE.

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Introduction: Oleamide is an endogenous agonist of cannabinoid receptor CB1. It reveals anti-depressive effects in mice like nicotine. Endocannabinoids synthesized in cardiovascular tissues relax coronary arteries and decrease cardiac work. In addition, CB agonists can activate both pro- and anti-apoptotic pathways in cardiovascular system.

Aim of study: In our study we analysed influence of nicotine and oleamide on mice heart histology.

Material and methods: 40 mice were divided into three groups: control C (20), E1 - receiving nicotine 0.1mg/kg body weight subcutaneously and E2 – receiving nicotine like E1 and oleamide 5mg/kg body weight intra-peritoneal. After 2 weeks animals were decapitated, their organs were gathered and embed in paraffin blocks. 5µm thick slices were prepared and stained according to standard H&E protocol. Microscopic analysis was performed with Olympus BX46 with digital camera and CellSens software. Statistical analysis was performed with Statistica 11 (StatSoft, USA). Statistical significance was calculated with Kruskal-Wallis test, only for the number of nucleololi in nuclei F-variance analysis test was used, the level of significance was set at $p<0.05$. Procedure was approved by Medical University of Lublin Ethics Commitee.

Results: Visual analysis revealed no significant morphological changes in experimental group. The mean cross-sectional area of nuclei in cardiac muscle cells was greater in both E1 and E2 than C (27.90 ± 7.96 vs 36.01 ± 11.70 vs 37.76 ± 9.97 µm respectively, $p<0.0001$). The highest mean endocardium thickness was measured in E2 (5.27 ± 2.66 µm) and lower in C (2.41 ± 0.22 µm) and E1 (3.12 ± 1.08 µm), $p<0.0001$. There was no statistically significant differences in cross-sectional areas of cardiomyocytes and number of nucleololi in cardiac muscle cells nuclei between control and two experimental groups.

Conclusion: Nicotine promotes thickening of endocardium. Effect is further enhanced by administration of oleamide.

TITLE: INFLUENZA VACCINE ANTIGENS INFLUENCE ON CD38 EXPRESSION ON B CD19+ LYMPHOCYTES AMONG COMMON LYMPHOCYTIC LEUKEMIA PATIENTS.

AUTHOR: Łukasz Świerszcz

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SUPERVISOR: assoc. prof. Ewelina Grywalska MD, PhD [2]

AFFILIATION: [1] Student Research Group at the Department of Clinical Immunology, Medical University of Lublin [2] The Department of Clinical Immunology, Medical University of Lublin

Introduction: Common lymphocytic leukaemia is the most frequent type of leukaemia in eastern Europe. CLL is characterized by heterogenic clinical course and various symptoms. CD38 expression on lymphocytes is used to estimate prognosis. CD38 expression on over 30% of leukemic cells along with non-mutated IgV gene is bound with worse prognosis than little B CD38+ lymphocytes level.

Aim of study: The evaluation of Influenza antigens influence on CD38 expression on B CD19+ lymphocytes among common lymphocytic leukaemia patients.

Material and methods: The study included 15 untreated patients with chronic lymphocytic leukaemia (age: 66.9 ± 5.8). The control group consisted of 5 patients (age: 65 ± 6.8). From collected peripheral blood mononuclear cells were isolated by density gradient centrifugation. Cells were stimulated by antigen contained in vaccine Influvac. Three-color immunofluorescence analysis was performed using a FACS Calibur Flow Cytometer (Becton Dickinson) equipped with 488 nm argon laser. Statistical analysis was performed using Statistica 10 PL. The study acquired positive opinion of the Bioethics Committee of the Medical University of Lublin.

Results: We observed higher B CD19+/CD38+ level within the CLL patients cells stimulated by Influenza antigen in comparison to nonstimulated cells. Furthermore, there was gradual increase of CD38 expression on stimulated B CD19+ lymphocytes surface collected from vaccinated CLL patients. Healthy volunteers, who underwent vaccination presented significantly lower B CD19+/CD38+ and MFI CD38 antigen titer on B CD19+ lymphocytes.

Conclusion: Hyperexpression CD38 on leukemic cells is one of important factors, which determines their growth and survival. CD38 is also responsible for inappropriate response to antigens. Basing on results we can estimate that the increase of B CD38+ lymphocytes indicates immunosuppression in CLL patients even on early stage of disease.

TITLE: NICOTINE CAUSE HYPOTROPHY AND HYPERAEMIA OF GLOMERULI IN MICE.

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CO-AUTHORS: Mateusz M. Woźniakowski[1], Mirosław A. Sławiński[1], Karolina Pękała[2]

SUPERVISOR: Ewelina Wawryk-Gawda, MD PhD; Barbara Jodłowska-Jędrych, MD PhD

AFFILIATION: [1] Chair and Department of Histology and Embryology with Experimental Cytology Unit, Medical University of Lublin, [2] Chair and Department of Medical Chemistry, Medical University of Lublin

Introduction: Nicotine is a natural alkaloid, it is a nicotine receptors agonist. Chronic administeration of nicotine in rats was found to cause decrease in kidney weight and fibrosis within them (Ironlove and Bolarinwa, 2009). Moreover rise in blood urea concentration was observed (Al-Khawaja et al., 2008).

Aim of the study: Aim of the study was assessment of histological changes in mice' kidney after chronic nicotine administration.

Methods: 25 mice were divided into two groups – control C(5) and experimental E (20), receiving nicotine 0.1mg/kg body weight subcutaneously. After 2 weeks animals were decapitated, their organs were gathered and embed in paraffin blocks. 5µm thick slices were prepared and stained according to standard H&E protocol. Microscopic analysis was performed with Olympus BX46 with digital camera and CellSens software. Statistical analysis was performed with Statistica 11 (StatSoft, USA). Statistical significance was calculated with U-Mann-Whitney test, the level of significance was set at $p<0.05$

Results: Hypotrophy and hyperaemia of glomeruli was observed in experimental group. Mean diameter of glomeruli was slightly lesser in experimental group (C: 58.11±12.50µm vs. E: 55.16±8.43µm, p=0.06), similarly Bowman space was more narrow in experimental group (C: 8.38±4.45µm vs. E: 7.14±2.76µm, p=0.06).

TITLE: THE ANTICANDIDAL EFFECT OF SELECTED ESSENTIAL OILS

AUTHOR: Małgorzata Zarzycka

CO-AUTHORS: Katarzyna Woźniak

SUPERVISOR: Anna Biernasiuk MSc, PhD

AFFILIATION: Medical University of Lublin, Department of Pharmaceutical Microbiology with Laboratory of Microbiological Diagnostics

Introduction: The yeasts belonging to Candida spp. are the normal microflora present on human mucosal surfaces, including the oral cavity, gastrointestinal tract, genitourinary tract, and skin. Simultaneously, the fungi are the most important cause of opportunistic infections in immunocompromised or immunodeficient individuals. The increased resistance of these pathogens to conventional antifungal drugs and the common side effects of antimycotics, have encouraged the search for novel therapeutic alternatives.

Aim of study: The aim of the study was the evaluate of anticandidal activity of 12 selected essential oils.

Material and methods: The 12 examined essential oils: from Lavandula officinalis, Cedrus Trew, Melaleuca cajeputi, Cinnamonium camphora, Melaleuca alternifolia, Citrus aurantium, Origanum vulgare L., Rosmarinus officinalis L., Thymus vulgaris L., Cymbopogon citratus, Salvia officinalis L., Melissa officinalis L., were screened in vitro for antifungal activities using the broth microdilution method according to European Committee on Antimicrobial Susceptibility Testing (EUCAST) and Clinical and Laboratory Standards Institute (CLSI) guidelines against reference strains and clinical isolates of yeasts belonging to Candida albicans and non-albicans Candida spp.

Results: The results of our study showed that examined oils indicated the activity against all tested yeasts with minimum inhibitory concentration (MIC) ranged from 0.5 mg/ml to 32 mg/ml and minimum fungicidal concentration (MFC) from 0.5 mg/ml to ≥ 32 mg/ml. The essential oils isolated from Thymus vulgaris L. and Origanum vulgare L. exhibited the highest anticandidal effect towards these microorganisms (MIC = 0.5 – 2 mg/ml). The majority of tested oils showed fungicidal activity towards reference and clinical Candida spp. (MFC/MIC = 1 – 4).

Conclusion: Our data indicate that the examined essential oils showed some fungicidal properties against yeasts belonging to Candida spp. suggesting their potential use as possible alternatives to synthetic antifungal drugs.

TITLE: ANTIMICROBIAL AGENT SUSCEPTIBILITY OF STAPHYLOCOCCUS AUREUS IN PATIENT WITH LEUKEMIA

AUTHOR: Katarzyna Woźniak

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Introduction: Staphylococcus aureus is one of the pathogens isolated most often from the human body. This species prefers colonization of the anterior nares and throat and has demonstrated the ability of developing resistance to many antimicrobial agents leading to life threatening infections.

Aim of study: The aim of studies was assess the antimicrobial agent susceptibility of S. aureus isolates from anterior nares and throat of patients with leukemia. Totally, 25 S. aureus isolates were tested for susceptibility against a panel of 17 antimicrobial agents by agar diffusion method (15 agents: penicillin, cefoxitin, norfloxacin, amikacin, gentamycin, erythromycin, clindamycin, quinupristin/dalfopristin, rifampicin, tetracycline, linezolid, fusidic acid, mupirocin, trimethoprim/sulfamethoxazole, chloramfenicol) and against 2 antimicrobial agents – vancomycin and teicoplanin by broth dilution method. Beta-lactamase activity was determined with the penicillin discs, while macrolide-lincosamide-streptogramin B resistance using D-test.

Material and methods: Our analysis showed that 96% of S. aureus strains were beta-lactamase positives. All 25 strains were identified as MSSA (methicillin-sensitive Staphylococcus aureus). They were susceptible to all agents except 1 (4%) strain which was resistant to tetracycline and erythromycin (phenotyp MSB). Vancomycin and teicoplanin showed bactericidal activity against all strains with MIC=0.5-1 μg/ml, MBC=0.5-4 μg/ml, MBC/MIC≤4 and MIC=0.125-0.5μg/ml, MBC=0.25-4 μg/ml, MBC/MIC≤4, respectively.

Results: The results obtained in this study indicate a high antimicrobial agent susceptibility of S. aureus strains colonizing the upper respiratory tract in patients with leukemia.

Conclusion: Indicating a possibility to use the standard treatment in case of staphylococcal infections.

PUBLIC HEALTH I

TITLE: THE COGNITION OF KNOWLEDGE OF NON MEDICAL STUDENTS ABOUT HYPERTHYROIDISM.

AUTHOR: Karolina Rożenek

CO-AUTHORS: Piotr Nalewaj, Monika Kowalik, Katarzyna Mendyk

SUPERVISOR: Ewa Obel, MD

AFFILIATION: Department of Endocrinology, Medical University of Lublin

Introduction: Hyperthyroidism is a pathological syndrome resulting from excessive production of thyroid hormones. Characteristic symptoms include tachycardia, diarrhea, weight loss, and exophthalmos. Furthermore, the most common cause of hyperthyroidism is Graves' disease and it relates primarily to women.

Aim of study: Our objective was to show the level of knowledge of hyperthyroidism among students from non-medical studies.

Material and methods: We carried out an anonymous questionnaire via Internet. The students of the Technical University of Lublin aged 19-21 was participated in this survey.

Results: We received 100 responses to our survey (76 from men). 26% of respondents did not know where the thyroid gland is located. Most often marked symptoms of hyperthyroidism were asthenia (43%) and constipation (29%). 78% of respondents indicated that an element necessary for proper thyroid function is iodine. 44% of respondents marked that products affecting on the thyroid are tangerine and strawberries.

Conclusions: As shown by this survey the knowledge about hyperthyroidism in the group of non-medical students is insufficient. We can conclude that most of respondents will not be able to recognize the early symptoms of hyperthyroidism. There is a strong need to improve all the surveyed areas of knowledge about the condition among students during their education.

TITLE: EVALUATION OF AWARENESS OF SAFE ANTIBIOTICS USE AMONG YOUNG PEOPLE.

AUTHOR: Aleksandra Łuksik

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SUPERVISOR: Stanisław Ostrowski MD, PhD

AFILLIATION: Student's Scientific Group of Internal Diseases, Medical University of Lublin

Introduction: Antibiotics are one of the most commonly used drugs. Due to this fact it is necessary not to forget about their side effects, interactions with other medications and alcohol. Also taking probiotics improves the safety of antibiotic therapy.

Aim of study: The primary aim of this survey was to evaluate the awareness of safe antibiotics use among young people.

Material and methods: The study involved a group of 854 people at the age range of 15 to 30 years including 262 men and 592 women. Most of the respondents were high school students or students. In order to conduct an analysis, the authorial questionnaire consisted of 31 questions was used. Questions about basic personal information as well as those about use of antibiotics occured.

Results: The average age of the respondents was 21,9 years. 77,2% of the respondents use probiotics during course of antibiotics and 57,3% of them do this properly. Most of the respondents (74,6%) read the whole leaflet before starting antibiotic therapy. The great majority of interviewees (94,6%) are aware that drinking alcohol is not allowed while taking most of antibiotics. Despite of this fact almost 24% of them consume alcohol during course of antibiotics. Over 69% of respondents take other drugs with antibiotics. Most people (86,8%) who take medication permanently inform about that doctor before choosing antibiotic. 79,5% of people declare knowledge about interactions between drugs and 83% of them are aware of the problems connected with it. One third of the respondents admit to have antibiotics side effects. Most frequently mentioned are diarrhea (24,5%) and rashes (23,8%). Less than 15% of interviewees declare that doctor had to change primary antibiotic because of antibiotics side effects affecting their health condition.

Conclusions: Awareness of the danger of drinking alcohol during the course of antibiotics is very high among young people but almost one quarter of them decide to consume it while they are taking antibiotics. Also interactions between drugs are considered as a serious matter. Most respondents take probiotics during course of antibiotics.

TITLE: WHAT DO NON MEDICAL STUDENTS KNOW ABOUT THE HYPOTHYROIDISM QUESTIONNAIRE STUDY.

AUTHOR: Karolina Rożenek

CO-AUTHORS: Nalewaj, Monika Kowalik, Katarzyna Mendyk

SUPERVISOR: Ewa Obel MD

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Introduction: Hypothyroidism is a chronic disease in which there is a slowing down of metabolic processes. Characteristic symptoms are constipation, anemia, bradycardia. The most common cause of hypothyroidism is Hashimoto's disease.

Aim of study: The aim of our study was to assess the level of awareness concerning hypothyroidism among students aged 19-25 years.

Material and methods: We have conducted a survey among students of Faculty of Technical Science in Lublin. The participation was voluntary and anonymous. They were send a research questionnaire via Internet. Then, we performed a statistical analysis of the acquired material.

Results: We have gathered 100 answers to our survey, 24 of them were from women and 76 from men. Only 9% of people answered that the hormone secreted by the thyroid is thyroxine, 23% answered that this hormone is cortisol. The majority of respondents (56%) answered that the doctor dealing with thyroid disease is an endocrinologist. Moreover, many answers also show that almost half of students (57%) were interested in the topic and prone to improve their knowledge about hypothyroidism.

Conclusions: The survey revealed inefficient awareness concerning hypothyroidism, which demonstrates the need of public education on this issue. Furthermore, young people seem to be aware of how important it is to recognize the symptoms of hypothyroidism.

TITLE: SCALE OF A SLEEP PROBLEMS AMONG YOUNG PEOPLE.

AUTHOR: Agnieszka Staciwa

CO-AUTHORS: Weronika Topyła, Beata Krasuska, Aneta Kosierb, Wioletta Bal

SUPERVISOR: assoc. prof. Agata Smoleń MD, PhD

AFFILIATION: Department of Epidemiology and Clinical Methodology, Medical University of Lublin

Introduction: Sleep is basic biological need. Without proper sleep our body can not function. It is the most important for central nerve system, but also for other systems. Proper sleep hygene consists of 7-9 hours of sleep per day and regular sleep time, frequent physical activity, no contact with electronical devices hour before sleep, no alcohol, caffeine, nicotine use before sleep. Sleep disorders such as insomnia, snoring, sleep apnea, nightmares, difficultes with falling to sleep etc. can lead or be a symptom of health complications. It is very important for young people to care for good sleep and for older to detect and treat sleep disorders.

Aim of study: The aim of the study was to estimate the problem of sleep disorder among young people and also awareness of this problem during contact with patients.

Material and methods: Materials were gathered through the internet questionnaire. The participation was annonymous and voluntary. It consisted of 14 questions about Their sleep hygene, existent sleep problems, awareness of possible complications connected with sleep disorders and also for medical students only questions about Their awareness during the contact with the patients.

Results: In this survey took part 120 respondents. Among them 67% women and 33% men. The average age was 23 years. 90% of respondents were students of medicine. Only 50% of respondents sleeps for recommended 7 to 9 hours per day and 49% is having not enough sleep. 92% is having constant contact with electronical devices before going to sleep. Only 24% do physical activity for few days per week and only 31% never use nicotine, alcohol or caffeine before sleep. 90% of respondents report sleep disorders, however only 10% look for medical help. 60% is aware of possible complications connected with sleep disorders but They admit to neglect it. Only 16% of medical students believe it is important to ask and educate patients about sleep hygene and possible disorders.

Conclusions: Most of young people suffer from lack of sleep and disorders which may be connected with bad sleep habits, but also high level of stress, which may lead to future health complications. It is concerning that youth neglect or are not aware of possible complications connected with Their sleep habits and in case of patinets contact do not pay enough attention to this problem. It is very important to educate people about good sleep hygene and put more attention to patients sleep problems during medical practice.

TITLE: DIET SUPPLEMENTS AND HERBAL PREPARATION CONSUMPTION AMONG YOUNG PEOPLE.

AUTHOR: Agnieszka Staciwa

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Introduction: Nowadays, diet supplements and herbal preparations are very popular among society. Due to high availability in many cases it is not controlled. That is way its so important to pay attention to possible interactions beetwen those supplements and prescribed drugs not only among young but what is the most important older patients who very often take many medications at once. Possible interactions can accure especially between cardiological medications for example aspirin, digoxin, warfarin, insulin. The most common was change of pharmacokintetics, but also many cases of adverse reactions from digestive, nerve and urinary system.

Aim of study: The aim of the study was to estimate the level of consumption of supplements and herbal preparation among youn people and awareness of possible interactions beetwen other drugs (also during the contact with patients).

Material and methods: Materials were gathered through the internet questionnaire. The participation was annonymous and voluntary. It consisted of 17 questions about consumption of diet supplement and herbal preparations, awareness of possible interactions of those with other drugs and also for medical students only questions about Their awareness during the contact with the patients.

Results: In this survey took part 120 respondents. Among them 67% women and 33% men. The average age was 23 years. 90% of respondents were students of medicine. 47% of respondent is taking supplements/preparations at present and 43% used to intake in the past. In case of 53% respondents its more than one type of supplement and 10% are also taking other drugs. Most of them are aware of possible interactions (76%), however They state to neglect it. Only 9% of respondents always reports taking supplement during doctos appointment. During contact with the patient 20% asks patients whether They are taking any supplements/herbal preparations and also 50% of students believe it is not Their role to educate patients about possible interactions.

Conclusions: The survey shows that not only many young people are chronicly taking more than one supplement/ herbal preparation, but also neglect possible interactions with prescribed drugs, which lead to not paying enough attention to this fact during patients contact. We know those interactions might be quite serious and are easily to prevent just by educating patients. We should never forget to ask patients about supplement taking during physical examination.

TITLE: CORRELATION OF LIFESTYLES AND DISEASES OF AFFLUENCE IN LUBLIN COUNTY POPULATION.

AUTHOR: Wioletta Bal

CO-AUTHORS: Beata Krasuska, Weronika Topyła, Agnieszka Staciwa, Aneta Kosierb

SUPERVISOR: assoc. prof. Agata Smoleń MD, PhD

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Introduction: The lifestyle is the scope and forms of everyday behavior of individuals or groups. The concept include not only human behavior, but also psychophysical mechanisms underlying these behaviors: human motivations, needs, values accepted. Lifestyle can have a huge impact on the pro- and anti-health behavior and thus cause admissions diseases in particular social group.

Aim of study: The aim of the study was to estimate the dependence of lifestyles and prelevance of disease of affluence in Lublin county population.

Material and methods: Examinations were performed during prophylactic actions runned in Lublin county from in 2016 and 2017 arranged by The Young Medics' Organization. The research methods were anonymous questionnaire, blood pressure test measured in upright sitting position after 5 minute rest and glucose measurement. Aneroid sphygmomanometer with standard arm cuff size and glucometer strip were used. Participation in the study was voluntary.

Results: The survey was conducted among a group of 101 people aged 17-78. The average age was 46,9 years. Among all examined 55% had blood pressure exceeding 140/90 mmHg, 42% had abnormal glucose and 4% of them suffered from coronary artery disease. 41% of patient who declare smoking have high blood pressure and 43% of them have hyperglycemia. Among all examined 11% had drink alcohol occasionally and had hypertension. 60% of drinking alcohol several times a week had high blood pressure and also 47% of them had abnormal glucose level. 15% of examined are overweight and have hypertension at the same time. 18 % of examined occasionally play sports and had hyperglycemia.

Conclusions: Near half of examined was overweight, two in five of them occasionally play sports, Only one in four do it regularly, 22% smoke and 15% drink alcohol at least once a week. These results can be correlated with prelevance of disease of affluence in study population.

TITLE: CORRELATION OF BODY COMPOSITION AND HYPERTENSION IN LUBLIN COUNTY POPULATION.

AUTHOR: Beata Krasucka

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SUPERVISOR: assoc. prof. Agata Smoleń MD, PhD

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Introduction: Body composition is used to describe BMI and the percentages of fat, bone, water and muscle in human bodies. Hypertension is a long term medical condition in which the blood pressure in the arteries is persistently elevated.

Aim of study: The aim of the study was to estimate the dependence of body composition and hypertension in Lublin county population.

Material and methods: Examinations were performed during prophylactic actions runned in Lublin county from in 2016 and 2017 arranged by The Young Medics' Organization. The research methods were anonymous questionnaire, test using a body composition analyzer and blood pressure test measured in upright sitting position after 5 minute rest . Aneroid sphygmomanometer with standard arm cuff size was used. Participation in the study was voluntary.

Results: In the study took part 101 citizens of Lublin, aged 20-78, average 45,6 years. 15% of examined patients had BMI over 25. 5% of patients had coexisting hypertension. We were able to measure body composition among 30% of examined patients. Average age of those patients was 54,6 years. 42 % of examined were overweight. High blood pressure was presented in 31 % of patients with BMI >=25. 50 % patients with an abnormal content of water in the body and 19 % of patients with abnormal amount of body fat suffered from hypertension.

Conclusions: 42 % of examined was overweight, 58% had too high percentage of body fat, 32 % had incorrect percentage of water in the body. Only 10 % of patients with high blood pressure took blood pressure medications regular.

TITLE: MOTHERS PERCEPTION OF RECOMMENDED VACCINES FOR CHILDREN: THE FREQUENCY OF ITS USE AND MOTHERS OPINIONS ABOUT CHILDREN IMMUNIZATION.

AUTHOR: Agnieszka Lis

CO-AUTHORS: Monika Kowalik, Bartosz Kuczyński, Katarzyna Mendyk, Grażyna Świtacz

SUPERVISOR: Halina Piecewicz-Szczęsna MD, PhD

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Introduction: The rules of children immunization in Poland are described in Immunization Program. It is a yearly updated document containing a list of mandatory and recommended vaccines as well as immunization schedules for them. In contrary to mandatory vaccines which are free, recommended vaccines are not obligatory for polish children and parents must pay if they want to immunize their child with recommended vaccine.

Aim of study: To define prevalence of use of recommended vaccines among polish children population. To get to know mothers' opinions on children vaccination.

Material and methods: 275 mothers participated in the survey. 109 of them have ever immunized their children with recommended vaccines. Participation was voluntary and anonymous. An own questionnaire was used. Obtained data was analyzed.

Results: Among respondents 40% of mothers have ever used at least one of recommended vaccines. Most widely used were pneumococcal vaccine (81% of the group that have ever immunized a child with nonobligatory vaccine), rotavirus vaccine (53%) and meningococcal vaccine (31%). 70% of mothers who have used recommended vaccines, agreed with a statement that use of vaccines may almost completely eliminate some infection diseases. Also 70% agreed with a statement that immunization protect not only children but also people who have frequent contact with them. At the same time even 38% of participants believe that vaccines may cause adverse effects such as autism, autoimmune diseases and allergies. 42% doubted in vaccines safety because of the fact that thiomersal is the ingredient of some of them.

Conclusions: Polish children are often immunized with nonobligatory vaccines. Most popular are pneumococcal, rotavirus and meningococcal vaccines. The majority of mothers believe in vaccines effectiveness. However, at the same time many parents doubt in safety of immunization. In our opinion extensive actions are needed to inform parents about benefits of children immunization and to clarify their concerns about vaccines safety.

TITLE: MARIJUANA AS A POPULAR DRUG AMONG POLISH STUDENTS.

AUTHOR: Sebastian Masternak

CO-AUTHORS: Rafał Mazur, Michał Pająk, Marta Podgórniak

SUPERVISOR: Katarzyna Skórzyńska-Dziduszko MD, PhD

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Introduction: Marijuana is probably the most popular narcotic in Poland. It is especially popular among young people including students from various Universities and subjects. Cannabis is commonly regarded as a “soft drug” and significant percentage of people doesn’t find marijuana as more dangerous than tobacco. In recent years we can observe more and more discussion about a need of changing a legal status of marijuana.

Aim of study: The aim of the study is to investigate the knowledge about risk and negative side effects of using marijuana among Polish students of various universities. We examined the popularity of recreational use of this substance and recognize respondents’ experiences connected with it.

Material and methods: The study was conducted in March 2017 using a standardized interview. It involved 132 students between 19 and 29 years of age interviewed with the author's questionnaire. The obtained results were statistical analyzed.

Results: Distinctly more than half (64%) of respondents have used marijuana at least once. Among separated subgroups, the biggest one (21% of all respondents) contains people, who used marijuana less than 3 times in their lives. The most common effect caused by using cannabis was elevated mood (76%) and increased appetite (67%). More than half experienced conjuctival hyperemia (58%). Interesting observation was that 2 respondents reported loss of consciousness. The most of examinated students consider marijuana as a soft drug (53%) and stands for at least partial legalization of it (57%). Nevertheless 67% of respondents think that marijuana is addictive.

Conclusions: Marijuana is a popular drug among Polish students. Despite of awareness of its addictive potential, majority support the legalization of it. In view of unknown source and composition of marijuana which is available in Poland, it signalize a need of discussion about change of marijuana’s legal status, taking into account positive and negative effects of such a change. There is a necessity to improve drug education for adolescent people.

TITLE: FUTILE TROUBLES OF FUTILE THERAPY? THE PERCEPTION OF THE PROBLEM OF FUTILE THERAPY BY SILESIAN ANESTHESIOLOGISTS.

AUTHOR: Olga Hejnar

CO-AUTHORS: Martyna Bator, Julia Dorniak, Paweł Ignacy

SUPERVISOR: assoc. prof. Łukasz Krzych MD, PhD

AFFILIATION: Department of Anesthesiology and Intensive Care, Medical University of Silesia

Introduction: ICU doctors are often facing a question if their patient still can be cured or the therapy became futile.

Aim of study: To investigate attitudes and experience of Silesian anesthesiologists towards futile therapy protocol.

Material and methods: E-mail invitation was sent twice to 377 doctors in 02.2017. The study group comprised 39 subjects (20M/19F), including 33 consultants and 6 residents. A 36-item questionnaire was based on the PTAiIT guidelines regarding the ineffective maintenance of organ functions.

Results: The protocol was known by 35/39 responders, among which 23/35 implemented it in the past. 22 people participated in the decision-making process as part of a team. Decision about deploying the protocol was made taking into account other specialists' (17/23) or nurses' (14/23) opinions. Respondents believed that deploying the protocol should be guided by ethical (25/39), social (14/39) and religious (2/39) beliefs. 32/36 decided that there is no time standards when therapy begins futile. 35/36 persons declared that the protocol was useful, although 20/36 suggested that current document was insufficient in regulating legal aspects of futile therapy and should be included on a higher level of legislation. Doctors prolonged therapy, being aware it was futile, due to fear of legal consequences (20/35) or family will (12/35). 29% respondents claimed that once implemented protocol cannot be withdrawn.

Conclusions: The protocol is as an important document, but requires important modifications to be commonly accepted and deployed by Silesian anesthesiologists. Those changes include increase in the procedures' transparency and recognition of the guidelines as the act.

TITLE: OBJECTIVE STRUCTURED CLINICAL EVALUATION AS AN ASSESSMENT METHOD FOR UNDERGRADUATE PHYSICAL THERAPY STUDENTS.

AUTHOR: Karolina Załuska- Patel

CO-AUTHORS: Michał Popajewski, Monika Wybraniak, Paula Szlachta, Samir Patel

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AFFILIATION: Department of Didactics and Medical Simulation, Medical University of Lublin

Introduction: Physical Therapy education programs employ a variety of forms of clinical skill assessments through different teaching strategies and evaluation methods. The Objective Structured Clinical Examinations (OSCEs) have been considered a reliable method for the evaluation of students clinical skills in health sciences, but it have been rarely applied in the teaching of physical therapy. OSCE evaluation methods vary broadly across programs, and in general remain underused. Some institutions have incorporated the OSCE method into their physiotherapy curricula, however many Polish educational facilities providing a physiotherapy degree program do not include any OSCE assessment method.

Aim of study: The main aim of the research was to assess the use of the OSCE as a tool to evaluate the abilities to perform basic clinical skills of undergraduate physical therapy students.

Material and methods: In this study 53 students from department of physiotherapy of the Medical University of Lublin were enrolled. Students were part of the Physical Therapy Basic Clinical Skills course based on high-fidelity medical simulation methods. In each student group we conducted four high-fidelity simulation scenarios. In each scenario students must apply basic clinical skills from the scope of procedures practiced in the first part of the course. In the OSCE evaluation we utilized standardized checklists which were designed so that a student receives marks for successfully performing the task related to the item on the checklist in each selected clinical skill procedure. To determine the usefulness, and students approach to the simulation techniques and OSCE examination on different levels such as knowledge, skill performance, learning satisfaction, critical thinking, and self-confidence, we conducted an anonymous questionnaire before and after classes and analyzed the OSCE exam results. The data obtained was analyzed by Wilcoxon test.

Results:

Conclusions: The spectrum of simulated learning is diverse and directly applicable to physiotherapy learning and teaching strategies. Simulation techniques can provide a controlled, secure learning environment and are able to increase student clinical skills. Our results indicate that OSCE exams can be successfully used in physiotherapy education programs. The OSCE exam had good internal consistency and is able to evaluate aspects that the traditional exam fails to evaluate.

TITLE: CONSCIOUSNESS OF THE CONSEQUENCES OF SMOKING CIGARETTES AND THE PREVALENCE OF CIGARETTE SMOKING AMONG MEDICAL STUDENTS.

AUTHORS: Agnieszka Radzka

CO-AUTHORS: Klaudia Brożyna, Marta Misztal, Jędrzej Tkaczyk, Krystian Ciechański

SUPERVISOR: Halina Piecewicz-Szczęsna MD, PhD

AFILLIATION: Chair and Department of Epidemiology and Clinical Research Methodology, Medical University of Lublin

Introduction: Cigarettes are composed of many carcinogens, especially nicotine, and are therefore a risk factor for many cancers. Cigarette smoking results in the development of COPD as well as many cardiovascular and vascular diseases, like coronary heart disease or stroke. Among the billions of smokers in the world are doctors, medical students, people who realize the importance of complications of this addiction.

The aim of study is to show how many students of Medical Universities are addicted to tobacco.

Material and methods: The method was anonymous questionnaire, which contained 28 original questions and was published on the Internet.

Results: In the survey took part 1739 respondents from all Medical Universities in Poland and from different fields of study and various years of studies. 79% of respondents were women and 21% were men. 96.6% of the students who participated in the survey were aged 18-30. 404 women said that they are smoking cigarettes (23.23%), while 963 women said they did not smoke (55.37%). 154 men answered yes to the question: "Are you currently smoking cigarettes?", which is 8.86% and the remaining 218 men said they did not smoke (12.54%). Total of both sexes smoking participants of survey were 32.09% and not smoking were 67.91%. The largest group was people smoking cigarettes from 2 to 5 years (44.82%, so 264 people), then 38.54% of smokers were smoking over 5 years (227 people). 50.8% have started smoking in high school, 20.9% have started smoking during studies, mostly during first year of studies. 43,7% (298 people) of respondents have started smoking because of increased stress. 73.1%(1272) said that medical studies have increased their awareness of the complications of smoking cigarettes. 99.5% of respondents knew what complications of addiction to cigarettes are. 76.95% of respondents have never quitted smoking (611 people); 18.89% have quitted smoking (150 people), while 4.16%, or 33 people, despite the attempts failed to stop smoking. 16.8% of respondents said that they are aware of complications of smoking, but they do not want to quit it, because they like to smoke with friends and 9% of respondents said they are not afraid of those complications.

Conclusions: One third of medical students are smoking cigarettes, instead of being aware of complications of that addiction. Students are smoking mostly because of two reasons – stress among studies and because it is the way of spending time with friends.

TITLE: RELATIONSHIP BETWEEN PM2,5 ,PM10 CONCENTRATION AND LUNG CANCER MORBIDITY IN PODKARPACKIE VOIVODESHIP COMPARED TO WHOLE POLAND'S POPULATION.

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CO-AUTHORS: Katarzyna Jarosz, Robert Chudzik, Maria Gołębiowska

SUPERVISOR: assoc. prof. Paweł Rybojad MD, PhD, assoc. prof. Marek Sawicki MD, PhD

AFILLIATION: Chair and Department of Thoracic Surgery, Medical University of Lublin

Introduction: According to WHO, clean air is considered as one of the basic criterion influencing human health. Concentration of particulate matters(PM2.5 and PM10)is one of the parameters determining the purity of the air. Elevated concentrations of PMs may be among factors leading to the development of lung cancer The aim of study is to show how many students of Medical Universities are addicted to tobacco.

Material and methods: The aim of the study was to find out relationship between air pollution(measured with PM2,5 and PM10 concentration)and lung cancer morbidity and show possible differences among Poland's and Podkarpackie voivodeship population

Results: In 2011-2015 concetration of PM2.5 and PM10 had decreasing tendency both in Podkarpackie voivodeship and Poland's average. The morbidity of lung cancer in the analyzed period increased both in Podkarpackie voivodeship and Poland's populations.
Podkarpackie Voivodeship:
Lung cancer morbidity(ICD10:C33+C34):2011-890;2012-994;2013-941;2014-968
PM2,5µg/m3:2011-37,2;2012-32,7;2013-24,4;2014-24,7;2015-26,5 PM10µg/m3:2011-48,5;2012-39,2;2013-27,9;2014-31;2015-31,2 Poland:C33+C34:2011-20837;2012-21870;2013-21556;2014-22032 PM2,5µg/m3:2011-31,7;2012-27,9;2013-26,5;2014-26,3;2015-24,5 PM10µg/m3:2011-36,7;2012-34;2013-32,1;2014-34,5;2015-32,9
WHO Guideline:PM2,5-10;PM10-20(µg/m3 annual mean)

Conclusions: Level of pollution in Podkarpackie voivodeship is surprisingly similar to the national average. This finding seems to be odd considering lack of heavy industry and large urban agglomerations. Explanation of this fact may be close located Lvov-volyn industrial district or poor aeration of assessed areas.

PUBLIC HEALTH II

TITLE: PRINCIPLES OF HEALTH PREVENTION: THE IMPACT OF KNOWLEDGE ON ITS COMPLIANCE.

AUTHOR: Marta Podgórniak

CO-AUTHORS: Marta Piróg, Olga Padała, Maciej Putowski, Sebastian Masternak

SUPERVISOR: Halina Piecewicz - Szczęsna MD, PhD

AFFILIATION: Medical University of Lublin, Department of Epidemiology and Clinical Reaserch Metodology

Introduction: Prophylaxis consists of measures taken for disease prevention and plays a crucial role in increasing the level of public health. In young people, it is recommended to perform regularly basic tests, such as breast or testis self-examination once a month, cervical smear tests in sexually active women every three years, as well as regular assessment of total blood counts and serum glucose level.

Aim of study: The aim of the study was to assess compliance with the principles of prevention and the frequency of recommended laboratory tests performed among students of medical faculties in comparison to non-medical students.

Material and methods: The study was conducted from April to October 2016 using a standardized interview. It involved 518 students between 18 and 38 years of age, median age 21. The study group consisted of 351 women and 167 men, of whom 435 were medical students (medicine, dentistry, physiotherapy and others) and 83 were students of different non-medical faculties. The research tool was the author's questionnaire. The obtained results were analyzed and statistical significance was calculated with the use of Chi-squared test and statistical significance was defined as $P < 0.05$.

Results: As many as 129 of 351 (36.8%) responding women admitted that they have a cervical smear performed every 3 years or often. Regularly, a smear test is performed in 34.5% of medical students and 48.3% women from non-medical faculties. The difference is statistically significant (p=0.046). About 24.9% of medical students and 13.8% non-medical students performs regular breast self-examination (p=0.066), while among men 34.5% from medical faculties performs testis self-examination in contrast to 16.0% of student from non-medical faculties (p=0.067). Almost half of respondents (50.4% vs 49.4%) have a total blood count performed regularly, however as many as 8.4% respondents of non-medical faculties have it had never performed. Among medical students this group accounted for 2.8% (p=0.057).

Conclusions: Students of medical faculties more often comply with the principles prevention and perform recommended laboratory tests. However, a cervical smear test is more regularly performed in group of respondents from non-medical faculties.

TITLE: STUDENTS ATTITUDE AND RESPONSE TO MEDICAL CANNABIS.

AUTHOR: Michał Pająk

CO-AUTHORS: Sebastian Masternak, Rafał Mazur

SUPERVISOR: Katarzyna Skórzyńska-Dziduszko

AFFILIATION: Medical University of Lublin, Chair and Department of Human Physiology

Introduction: The topic of medical use of marijuana is recently widely presented in Polish media. For many people the rules and purpose of use this substance remains unclear, causing resistance based on cultural conditions. We have managed to collect information about marijuana in the young group, consisting of students.

Aim of study: The aim of the study is the analysis of knowledge and attitude towards the medical marijuana among students of various Polish universities.

Material and methods: The study was conducted in March 2017 using a standardized interview. It involved 132 students between 19 and 29 years of age interviewed with the author's questionnaire. The obtained results were statistically analyzed.

Results: The results show that almost every (92%) respondent is sympathetic to use of marijuana in medical treatment. The similar percentage of students (90%) would undergo this therapy if it's needed. Unfortunately level of the knowledge about diseases which can be treated with marijuana is questionable. The most of respondents (70%) know about a possibility of curing a drug resistant epilepsy; however no more than half are aware of using cannabis in cases of persistent pain and chemotherapy-related nausea and vomiting. Moreover, more students think that cannabis can be used in treatment of psychotic disorders (where marijuana is rather an aggravating factor) than in curing glaucoma in which it can be helpful.

Conclusions: In opinion of the vast majority of respondents marijuana should be available to use in medical treatment in Poland. There is a need for running more researches about possible uses of medical cannabis. The knowledge of this subject should be popularized among society and it should be based on scientific reports.

TITLE: ANALYSIS OF THE STOOL TEST RESULTS FOR THE PRESENCE OF CLOSTRIDIUM DIFFICILE TOXINS IN PATIENTS WITH SYMPTOMS OF ENTERITIS.

AUTHOR: Agnieszka Wójtowicz

CO-AUTHORS: Robert Ściślak,

SUPERVISOR: assoc. prof. Alina Olender MD, PhD, Piotr Barszczewski MD

AFFILIATION: Students Scientific Association of Chair and Department of Medical Microbiology, Medical University of Lublin.

Introduction: Clostridium difficile is a species of Gram-positive anaerobic spore forming bacteria which produces toxins – nosogenic factors. Symptomatic infections caused by C. difficile manifest as profuse, watery diarrhea or toxic megacolon, without the other cause and with the presence of one of the three criterion at least: 1) detection of the presence of toxins A and/or B in stool or demonstration the presence C. difficile, which produces toxins, 2) the pseudomembranous enterocolitis detection in the endoscopy or in intervention 3) detection typical changes in a histopathology. Morbidity rate increased in the last years both in Europe and in North America.

Aim of study: Analysis of the occurrence of toxins C. difficile in stool in people with symptoms inflammation of intestines.

Material and methods: Informations were collected from people with symptoms of enteritis in Chair and Department of Medical Microbiology, Medical University of Lublin.

Results: Feces were researched from 100 people with symptoms of enteritis to check the presence toxins produced by C. difficile. In a research group there were 53 women and 47 men. The average age was 62 years old: 61 for women and 63 for men. Positive results were confirmed in 41 persons: 22 were among women (43,14% positive among researched women) and 16 among men (36,16%). The average age of people with high toxin concentration was 75 years old. Among researched people were 18 children and only one child had a result, which permitted to diagnose an infection. Between 18 and 65 years of life the positive result was 46,15%. 63 people in old age were researched and the high toxin concentrations were received in 33 cases – 52,38% of all researched people after their 65. The result of the research confirm that elderly people are in a risk group of symptomatic infections C. difficile.

Conclusions: C. Difficile infection can cause life-threatening enterocolitis with ileus. The incidences of C. Difficile infection increase with patient’s age, so the prevention is extremely important in this group of people.

TITLE: KNOWLEDGE ABOUT ISCHEMIC STROKE AND ITS TREATMENT AMONG MEDICAL UNIVERISTIES STUDENTS IN POLAND.

AUTHOR: Aleksandra Zimecka

CO-AUTHORS: Izabela Dąbrowska, Karol Krawiec, Michał Zarobkiewicz, Mateusz Woźniakowski

SUPERVISOR: assoc. prof. Andrzej Wolski MD PhD

AFFILIATION: Angiology Students Science Group, Medical University of Lublin

Introduction: Ischemic stroke is an important and frequent cause of death or disability. Standard treatment for ischemic stroke is nowadays pharmacological fibrinolysis. Not so long ago it was joined by a second promising method – the thrombectomy.

Aim of study: The aim of the study was examining the level of medical students' knowledge concerning the ischemic stroke and its treatment.

Material and methods: The study was based on a self-prepared online survey, posted via Facebook groups of various medical students faculties. As a result 470 answers were gathered. 71.28% of respondents were females, the average age of a student was 22.83 ± 2.58 years. The majority of students were from Nicolaus Copernicus University Collegium Medicum in Bydgoszcz (20.21%), Warsaw Medical University (18.30%) and Medical University of Łódź (16.81%). Almost a half of them (42.77%, n=201) were medical-degree undergraduates. Statistical analysis was performed with Statistica 12 (StatSoft®, USA).

Results: About two thirds (65.74%) have never heard about thrombectomy. Those who have heard about it (34.26%) answered detailed questions about thrombectomy and ischemic stroke. Most of them (65.22%) knew the therapeutic window while about a half (44.72%) chose the correct contraindications for this procedure. The second part of the survey verified knowledge about the strokes. 46.81% of respondents choose the proper frequency of ischemic cases in the total number of strokes. About one sixth (13.41%) knew how long after the stroke episode its first signs can be noted in CT. More than one forth (28.72%) knew the INR value which excludes patient from getting IV thrombolysis.

Conclusions: Ischemic stroke is still a big therapeutic problem as in many cases even properly administered thrombolytic treatment turns out to be insufficient. For some patients thrombectomy is a good option. Due to high mortality and disability burden related to the ischemic stroke, basic knowledge about it should be possessed by every medical student, irrespective of the chosen faculty. Our study shows that unfortunately students' knowledge in this topic is still less than satisfactory

TITLE: ANALYSIS OF GOOD SEXUAL PERFORMANCE IMPORTANCE IN GROUP OF PATIENTS WITH ISCHEMIC HART DISEASE WHO UNDERWENT CARDIAC REHABILITATION.

AUTHOR: Karolina Stolarczyk

CO-AUTHORS: Alicja Dulanowska, Jakub Dulanowski, Jana Gebala

SUPERVISOR: assoc. prof. Dariusz Kałka MD, PhD

AFFILIATION: Cardiosexology Unit, Department of Pathophysiology, Wroclaw Medical University

Introduction: 80% of patients with ischemic heart disease (IHD) suffer from erectile dysfunction (ED). Unfortunately only some of them are treated. It is often related with false conviction that ED medication is harmful and dangerous and also with lack of specialists' involvement in treatment of ED. Since 2016 in Poland PDE5 inhibitors are OTC medication and there has been intensification of sexual performance enhancement drugs advertising. Aim: Analysis of good sexual performance importance in group of IHD patients and assessment the changes in years before and after introducing PDE5 inhibitors as over the counter medication.

Aim of study: Analysis of good sexual performance importance in group of IHD patients and assessment the changes in years before and after introducing PDE5 inhibitors as over the counter medication.

Material and methods: Group of 1800 male with mean age (62,56±9,037) undergoing cardiac rehabilitation in 5 medical facilities. 1557 out of them surveyed in years 2011-2015 and 223 in year 2016. Analysis conducted with the use of own questionnaire estimating importance of sexual performance and IIEF-5 questionnaire for assessment of the presence of ED.

Results: In years 2011-2015 69 (4,38%) of patients state that sexual performance is not important for them, 182 (11,54%) did not have an opinion, for 657 (41,66%) and 669 (42,42%) sexual performance was important and very important. In year 2016 3 (1,35%) of patients state that sexual performance is not important for them, 4 (1,79%) did not have an opinion, for 118 (52,91%) and 98 (43,95%) sexual performance was important and very important. Analysis shows statistically significant (p=0,023909) increase of importance of good sexual performance for patients surveyed in 2016.

Conclusions: In 2016 importance of sexual performance significantly increased, which could be connected with easily accessible information in media about ED medication.

TITLE: General knowledge about vaccines among medical and non-medical students.

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CO-AUTHORS: Aleksandra Zimecka, Tomasz Zuzak, Dominika Cieślak

SUPERVISOR: assoc. prof. Ewelina Grywalska MD, PhD

AFFILIATION: Chair and Department of Clinical Immunology, Medical University of Lublin

Introduction: Vaccines proved to be efficient mean in prolonging human lifespan and enhancing life quality. Despite numerous and certain successes of vaccination like eradication of poliomyelitis a growing number of vaccine-opposers can be noted in most Western countries.

Aim of study: Aim of the study was a quantitative assessment of students' knowledge about vaccines.

Material and methods: A self-prepared online questionnaire was presented to students of various Polish state universities. As a results 1413 fulfilled forms were gathered. The form consisted of numerous questions including 4-question-long knowledge part. Each question in that part was encoded with 1 point for correct answer and 0 for incorrect. In case of the question on the duration of immunity after vaccines and disease 2 points were granted for answer “definitely no” and 1 for “rather no”. In total each respondent was able to gain 5 points. U Mann Whitney test was used for calculation of statistical significance with $p<0.05$ as the level of significance.

Results: . Scoring of knowledge questions was significantly higher in MUS than NMUS (43.73 ± 19.73% versus 35.35 ± 19.24%, $p<0.000001$). In both groups the minimal value was 0%, the maximal differed as it was 100% for MUS and 80% for NMUS. We further calculated percentage for those who oppose vaccines (22.12 ± 17.93%) and those who do not oppose vaccination of children (39.84 ± 19.62%), the difference is statistically significant with $p<0.000001$).

Conclusions: As the vaccine knowledge was significantly lower among vaccine-opposers wide educations on principles of vaccination, vaccine safety and basics of contagious diseases may be

TITLE: THE ANALYSIS OF PARENTS ADHERENCE TO ANTIBIOTIC THERAPY FOR INFECTION IN CHILDREN: SURVEY RESEARCH.

AUTHOR: Agnieszka Lis

CO-AUTHORS: Monika Kowalik, Katarzyna Mendyk, Gabriela Kuczyńska, Bartosz Kuczyński

SUPERVISOR: Halina Piecewicz- Szczęsna MD, PhD

AFFILIATION: Medical University of Lublin, Department of Epidemiology and Methodology of Clinical Research

Introduction: Patient adherence affects efficacy and safety of treatment. The proper duration of the therapy as well as adequate drug dose and time of its administration are crucial in antibiotic therapy. Antibiotics are widely used among children population. Parents administer the drug to the children. Thus, their knowledge about rules of antibiotic therapy is especially important.

Aim of study: To analyze parents' adherence to antibiotic therapy for infection in children. To define most frequent mistakes in antibiotic therapy and to assess knowledge about administration of antibiotics in children.

Material and methods: The type of the research was a survey. An own questionnaire was used. The group of participants consisted of 665 parents. The participation was voluntary. Questions regarded most common mistakes during antibiotic therapy. Obtained data was then mathematically analysed.

Results: Female accounted for over 97% of the group. The average age of respondents was 31 (median). 88% of respondents claim that they adhere to antibiotic treatment after physician office visit. However, 36% of parents declare they had at least once not administered prescribed medicament to the child. Furthermore, 37 % of respondents had at least once forgotten to give a dose of antibiotic to their child or they had changed time of drug administration. 96% of parents are aware that the antibiotic therapy must be completed despite the relief of patient's symptoms before the end of therapy. 2% of parents had ever reduced a dose of antibiotic and 7% had finished the therapy earlier because of health improvements among their children. Only 3% of respondents admit they had at least once given to the child antibiotic left after previous therapy without consulting a doctor.

Conclusions: Vast majority of parents declare adherence to antibiotic therapy. Majority of respondents has good knowledge about administration of antibiotics to the children and put it into practice. The most frequent mistakes in the antibiotic therapy were not giving prescribed medication, forgetting to give a dose of antibiotic or changing the time of its administration. Vast majority of respondents does not give to their children antibiotics left after previous therapy without consulting a doctor.

TITLE: THE VIEW OF MEDICAL STUDENTS ON COMMUNICTION WITH PEDIATRIC PATIENT WITH NEOPLASTIC DISEASE.

AUTHOR: Michał Jędrejek

CO-AUTHORS: Justyna Kwolczak, Robert Ściślak, Agnieszka Wójtowicz

SUPERVISOR: Joanna Nurzyńska-Flak MD, PhD

AFFILIATION: Department of Paediatric Haematology, Oncology and Transplantology, Medical University of Lublin

Introduction: Communication with patient constitutes very importnat aspect of doctor's work. Relying diagnosis of neoplastic disease to pediatric patient requires empathy and particular skills, which medical students should acquire during their education. In our study we want to inspect how medical students relate to subject of relying diagnosis to pediatric patient.

Aim of study: The aim of the study is to inspect the view of medical students on subject of communication with pediatric patient with neoplasic disease.

Material and methods: In our study we used online survey consisting of 25 questions relating to clinical situations of communication with pediatric patient and student's opinion on teaching and learning communication skills. 106 students of Medical University of Lublin participated in our survey.

Results: The analysis shows that more than a half of respondents (50,9%) would inform patient about possible complications of treatment regardless of young age (4-6 years old patient), but the quantity of this answer increases to 90,6% in the same question relating to patients at age 14-16 years. 83% of respondents wouldn't use a lie to calm down young (4-6 years old) patient. Less than a half of students (40,6%) presume that both parents should be present during relying diagnosis to a patient. Only 6,6% of interviewees have heard of protocol of giving bad iformation "EMPATIA". Questions relating to teaching and learning communication skills show that in students' opinion they can't practise communicating with pediatric patient in satysfying them way (17% answered with "rather no" and 45,3% with "definietly no") and they claim that classes with simulated pediatric patient would improve their communication skills (43,4% answered with "rather yes" and 19,8% with "definietly yes")

Conclusions: The study showed that most of students follow substantial ethical rules (not lying to patient, not promising positive treatment outcome) in communicating with oncological pediatric patients, although many of them lack knowledge in the field of relaying serious news. The students' approach to giving detailed information about treatment differs depending on the age of the patient. They also see the importance of developing comunication skills, but in their opinion they can't practise them properly during studies.

TITLE: KNOWLEDGE ANALYSIS OF MEDICAL STUDENTS ABOUT THE FIRST CANCER SYMPTOMS AND THE MOST COMMON CANCERS AMONG CHILDREN

AUTHOR: Agnieszka Wójtowicz

CO-AUTHORS: Robert Ściślak, Justyna Kwolczak, Michał Jędrejek

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AFFILIATION: Students Scientific Association of Department of Paediatric Haematology, Oncology and Transplantology, Medical University of Lublin

Introduction: Knowledge about the first cancer symptoms, typical localization and frequency is important, because it helps in diagnosing and leads to rapid initiation of a treatment. Nowadays, about 80% children with diagnosed cancer can be cured.

Aim of study: Knowledge analysis of medical students about the most common cancers among children and the first cancer symptoms.

Material and methods: Survey was created and elaborated by authors of a study. The questionnaire filled 173 medical students from all over Poland.

Results: Analysis revealed differences in a knowledge between young (students of 1-3 year) and older students (4-6 year of study). Young students answered correctly on 38,85% questions, older students on 63,92%. Young students had a great knowledge about leukaemia even though they haven't attended haematology classes yet. 62,27% of them knew that leukaemia is the most common cancer and 62,27% knew the basic leukaemia symptoms. Students, who began haematology classes, demonstrated even greater knowledge. 92,06% knew leukaemia symptoms and 88,89% answered that there are the most common cancers among children. Answers to the question about brain tumours diagnostics were surprising, because 62,73% of young students didn't commit a mistake, compared to older students – 49,21% correct answers. That was the only question, which was answered worse by older students. Questions which concerned practical issues, such as cancer symptoms and physical examination, were answered better (61,37% correct) than questions about theory (39,05%) – epidemiology, pathogenesis and localization. The most correct answers were in a question referred to physical examination (79,19%), the least (8,09%) on question about the most common children age group, where cancers occur.

Conclusions: Student of the last three years of study gave more correct answers than students of the first three years. It is caused by an increase of students knowledge during studying. The most correct answers were given by students of fourth year, the least – students of first year. A large part of respondents marked incorrect answers. It is important to pay attention to the basic cancer symptoms during learning process. That knowledge will be essential in the future doctors' life.

TITLE: STRESS AMONG MEDICAL STUDENTS AND HOW THEY MANAGE IT

AUTHOR: Klaudia Brożyna

CO-AUTHORS: Agnieszka Radzka, Jędrzej Tkaczyk, Krystian Ciechański, Erwin Ciechański

SUPERVISOR: Halina Piecewicz-Szczęsna MD, PhD

AFFILIATION: Students Research Society at the Department of Epidemiology and Clinical Research Metodology, Medical University of Lublin

Introduction: It is known that medical studies are one of the most stressful fields of study. From the start to the end of medical education every student have to deal with a pressure coming from doctors, lecturers and sometimes other students. There are a lot of requirements which we have to fulfil. From one year to another there are more of them.

Aim of study: The aim of a study is to show how medical students are stressed and how they manage it.

Material and methods: The method was anonymous questionnaire, which contained 23 original questions and was pubished on the Internet.

Results: In the survey took part 659 medical students from diffrent Medical Universities in Poland. There were 469 women (71,2%) and 190 men (28,8%). About 92% of interviewiees affirmed that they are more stressed during academical year than during time without classes.Moreover the results of the questionaire show that more than 95% students of first, second and third year are stressed. In the case of students from fourth, fifth and sixth year about 88% affirmed stress during academical year. The data show that the most stressed are students from first year. In the survey we asked a question about unequal, unheathy and unjust competition if it occurs in the student`s surroundings and 481 medical students (73,9%) claimed to it.

Conclusions: Stress is common phenomen in daily lives especially during academical year. As we can see, the level of stressed students is similiar in every year of studies. In spite of changing requirements in every academical year, the stress is the same.

TITLE: PSYCHOACTIVE SUBSTANCE INTOXICATION AS A INCREASING PROBLEM IN LUBLIN PROVINCE IN A LAST YEARS

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CO-AUTHORS: Klaudia Brożyna, Krystian Ciechański, Erwin Ciechański,

SUPERVISOR: Michał Tchórz MD

AFFILIATION: Student Research Circle at the Department of Toxicology and Cardiology at the Medical University of Lublin

Introduction: Psychoactive drug, is a chemical substance that changes brain function and results in alterations in perception, mood, or consciousness. Psychoactive substances often bring about subjective changes in consciousness and mood that the user may find rewarding and pleasant or advantageous and are thus reinforcing. Substances which are both rewarding and positively reinforcing have the potential to induce a state of addiction. Number of hospitalizations after the use of these substances shows, how dangerous they can affect our organism. Especially dangerous, may be so called 'desinger drugs'.- a structural or functional analog of a controlled substance that has been designed to mimic the pharmacological effects of the original drug, while avoiding classification as illegal and/or detection in standard drug tests.

Aim of study: Aim of the study is to analyze tendency in a number of hospitalizations caused by psychoactive substances intoxication at the Department of Toxicology and Cardiology in Lublin in a last years.

Material and methods: Data comes from yearly reports, made by the Department of Toxicology and Cardiology in Lublin.

Results: In a last years, number of hospitalizations, after the use of psychoactive substances increased. In a year 2013 doctors at the Department of Toxicology and Cardiology had to deal with 133 cases of intoxication. In a 2016, total number of hospitalizations was 233. The most cases were registered in a year 2015 – 258 hospitalizations. Most of the hospitalized patients were men – in a year 2016 190 patients were men and only 40 were women. Percantage of men varied from 69 % in a year 2013 to 82 % in 2016. The percentage of a woman had decreasing tendency. Average age of a hospitalized patient had increasing tendency – in 2013 it standed at 24,3 and in 2016 at 25,7. Fortunately, percentage of underaged patients decreased from 31 % in 2013 to 7,8 % in 2016. The dominating age group were young adults (18-25 years) – from 45 to 51%. The age group in which we observed the biggest increasing tendency was 26-40 years (from 26 % in 2013 to 41 % in 2016).

Conclusions: Psychoactive substance intoxication is a increasing problem in our region. In a foru years number of cases almost doubled. The substances that cauce intoxication are 'typical' drugs, such as amphetamine, as well as 'designer drugs'. Designer drugs are a serious problem, because doctors don't know which substances contains a drug. There is no specific antidote, and the treatment is symptomatic. Positive conclusion from this study is that percentage of a underaged patients decreased in a last years. Very important goal for the next years is to decrease total numbers of intoxications. We can achieve that by organizing a campaigns and educate the society.

CASE REPORT I

TITLE: A CASE REPORT OF PREGNANT PATIENT WITH 1 DIABETES MELLITUS AND ITS INFLUENCE ON PREGNANCY AND DIABETIC NEPHROPATHY.

AUTHOR: Anna Kułak

CO-AUTHORS: Kamila Tuzim, Paweł Przetacznik, Diana Bajerczak

SUPERVISOR: Iwona Baranowicz-Gąszczyk MD, PhD

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Background: Type 1 diabetes is a metabolic disease, which changeable levels of glucose in blood may lead to both hyperglycaemia and hypoglycaemic coma, create favourable conditions for long-term micro- and macrovascular complications to appear.

Case report: A 32-year-old female patient diagnosed with type 1 diabetes in 1998 with multiple long-term micro- and macrovascular diabetic complications (peripheral and autonomic neuropathy, retinopathy, diabetic gastroenteropathy, osteoporosis, diabetic foot, nephropathy) became pregnant against medical advice. At that moment patient was treated with Levemir, NovoRapid, Dopegyt, Concor Cor, Euthyrox and Jodid. Disturbances of renal function (creatinine 1,8 mg/dl, protein in urine 7g/24h) detected in 2nd trimester required renal replacement therapy. Despite treatment permanent loss of renal function was observed (creatinine 3,2 mg/dl, 24-hour urine protein excretion 10104 mg/24h, eGFR – 17,8 ml/min/1,73m^2). Intrauterine growth restriction led to delivery by cesarean section (34 hbd). Currently, the patient is at stage four chronic kidney disease and is placed on the transplant qualification list.

Conclusions: Based on the analysis it was concluded that physiological changes during pregnancy predispose to the rapid progression of diabetic nephropathy, which may lead to complications in pregnancy.

TITLE: HOW MANY LINES OF THERAPY MAY BE EFFECTIVE IN PATIENTS WITH NON-SMALL CELL LUNG CANCER? CASE REPORT.

AUTHOR: Karolina Rożenek

CO-AUTHORS: Piotr Nalewaj, Anna Sieńko, Agata Skrzyńska, Piotr Jarosz

SUPERVISOR: prof. Paweł Krawczyk MD, PhD, Sławomir Mandziuk MD, PhD, Marcin Nicoś MD, PhD

AFFILIATION: Department of Pneumonology, Oncology and Allergology, Medical University of Lublin

Introduction: Non-small-cell lung cancer (NSCLC) is one of the most common neoplasm diagnosed worldwide. Mostly, the disease is diagnosed in advanced stages when possibilities of surgery are limited and the prognosis is unfavorable. In the first line of treatment the most effective are platinum-based "doublets". Otherwise, analysis of molecular profile of lung cancer may broaden therapeutic choices increasing the availability to molecularly targeted therapies.

Case report: A 60-years-old man was admitted to the hospital due to persistent symptoms like cough, and dyspnoea. In 2014 he had right lung segmentectomy and adneocarcinoma in advanced stage (T4N2M1) was diagnosed. Molecular analysis indicated two rare overlapping substitutions (G719X and S768I) in *EGFR* gene. Based on molecular profile the patients had received EGFR TKI therapy (erlotinib) and the partial remission with following stabilization of disease were obtained. After 11 months of the first line treatment, metastases to hip bone appeared. The next lines of treatment included four cycles of pemetrexed and cisplatin (disease stabilization). Then, six cycles of docetaxel with maintenance nintedanib were administrated. During the progression, the T790M substitution in *EGFR* gene in cfDNA was negative. However, PD-L1 expression was strongly positive. Based on this result the patient was qualified to the immunotherapy (nivolumab). Due to side effects and fast progression the immunotherapy was discontinuated. The T790M substitution in *EGFR* gene in cfDNA was retested and mutation was detected. The T790M substitution is responsible for acquired resistance to 1st or 2nd generation of EGFR TKIs and sentivity to 3rd generation of EGFR TKIs (osimertinib, rociletinib). The patient was qualified to molecularly targeted therapy based on osimertinib and disease stabilization was received.

Conclusion: In recent years the evolution of knowledge about molecular background of NSCLC led to extension of treatment possibilities. Administration of targeted agents allow to individualize the treatment, limit toxicity and prolong survival.

TITLE: ALCOHOL PARACETAMOL SYNDROME

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CO-AUTHORS: Agnieszka Radzka, Jędrzej Tkaczyk, Krystian Ciechański, Erwin Ciechański

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Introduction: Nowadays paracetamol is one of the most common analgetic and antipyretic over-the-counter drug. As we know, acetanominphen is not only a single medicine but it is also one of the many components of drugs which are commonly used during fever or influenza. People think that acetaminophen is entirely safe and they take this drug in non-limited doses. Unfortunatelly, this medicine causes not only liver damage, but also kidney, heart and pancreas disorders. Moreover researchers show that therapeutic doses of paracetamol can increase the risk of liver injury among people consuming an alcohol.Toxicity of acetaminophen can also be increased by alcohol ,even if it was consumped after etanol was expelled from the organism.

Case Report: 38 year old patient with no chronic diseases in the past was admitted to the Department of Toxicology in order to acute, toxic liver damage.According to the patient`s history within 11 hours she took 4g of paracetamol.After this time patient was vomiting and had a stomachache. During admission to the hospital patient was in severe condition, conscious and vomiting. In physical examination abdomen was painfull and strained. In laboratory tests alanine aminotransferase was 7565 U/l and aspartate aminotransferase was 17000 U/l. Patient affirmed daily alcohol consumption. The medical treatment was intensive and contained acetylocysteine, however the condition of the patient was still severe and parametres of liver damage were growing.The patient was taken to the Department of Transplantology.

Conclusion: Even though the alcohol – paracetamol syndrome belongs to rarity, we should know that not only consuming alcohol and acetaminophen in the same time can be dramatic in causes. Taking paracetamol after alcohol expulsion can also result in liver damage, where the organ trasnplantation is necessary to save someone`s life.

TITLE: ALOPECIA AREATA AND COMORBIDITIES - CASE REPORT

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Background: Alopecia areata (AA) is a common noncicatrical hair condition of both genetic and autoimmune etiology affecting around 0.1-0.2% of the population. The autoreactive lymphocytes T affect anagen hair follicles causing round or oval well-circumscribed patches of hair loss. The damage of stem cells of the hair is not observed in the course of AA, therefore the hair loss is not permanent and a spontaneous recovery can be observed sometimes. The disease occurs mostly within children and young adults, however it may begin in every age. The disease can present itself as few or multiple hair-loss patches (alopecia areata), the loss of all scalp hair (alopecia totalis), the loss of all scalp and body hair (alopecia universalis). AA is frequently associated with disorders such as anemias, thyroid diseases, asthma, diabetes, allergic rhinitis, ulcerative colitis as well as dermatological conditions such as: autoimmune polyendocrinopathy candidiasis ectodermal dystrophy, lichen planus, vitiligo or atopic dermatitis.

Case Report: We present a case of a 40-year old female patient hospitalized in August 2016 due to alopecia totalis, which first symptoms begun in January 2015. Dermatoscopic examination of the scalp revealed typical changes - numerous “exclamation mark” hairs, black dots and broken hair. Although thyroid abnormalities are the most common systemic condition associated with AA, the patient did not reveal any thyroid malfunctions. The other common group of comorbidities are anemias including the microcytic anemia caused by iron deficiency, which was found in our patient. The treatment included topical high potency steroids, topical anthralin, topical 2-5% minoxidil, and hair growth stimulating lotions. Due to anemia the patient was consulted by the haematologist, and iron supplements were prescribed. The above treatment resulted in rapid improvement of the patient's hair condition and regrowth of the hair within the next few months.

Conclusions: The presented case focuses not only on the need of therapy of alopecia areata but also its’ comorbidities.

TITLE: DEFINITELY NOT WHAT WE WERE LOOKING FOR: A PAEDIATRIC CASE REPORT.

AUTHOR: Aleksandra Kołodziej

CO-AUTHORS: Karol Lasota, Justyna Wysocka

SUPERVISOR: Beata Rybojad MD, PhD

AFFILIATION: Department of Emergency Medicine, Medical University of Lublin

Background: Metabolic diseases are metabolic pathways disorders that usually manifest at early stages of life. Because of inborn lack of certain enzymes not all metabolic pathways can be finished. This leads to accumulation of the intermediate products which can cause many symptoms. Due to an immense amount of possible metabolic errors there is a wide variety of symptoms, such as hypotonia, mental development regression or seizures. There is a possibility that a metabolic disease will not show up right after birth. Because of a wide variety of symptoms we should provide a complex diagnosing process.

Case Report: We report a case of an infant hospitalised at the age of 3,5 months due to the delayed psycho-physical development, poor weight gain, hypotonia and abnormal sucking and swallowing observed since 6 weeks of age. Metabolic diseases diagnostics included MRI of the central nervous system. During general anaesthesia, conducted to perform an MRI scan, patient presented respiratory failure, needed intubation and was transported to the Intensive Care Unit (the MRI scan was not performed). Later on that day, a head CT scan with contrast was performed and showed no pathological changes. A week later, in a MRI scan, a tumour derived from medulla oblongata (18x14x15 mm) in the posterior cranial cavity was found. Patient was qualified for high risk surgery without guarantee of total resection. The tumour was sent to a pathologist who diagnosed glioblastoma G4 (WHO). Chemotherapy was introduced after consulting different medical centers and informing parents about high risk of the therapy. Initially the first round of the treatment was given to the patient while still in the ICU (because of ongoing mechanical ventilation). Then child was transferred to Haematology and Oncology Ward for further treatment. Currently patient is 4 years old (underwent radiotherapy and 23 cycles of chemotherapy), her psychosomatic development appropriate to her age, she has squint and a mild hemiparesis. The latest MRI scan showed residual parts of the tumour that are stationary to the previous scans.

Conclusions: Due to the patients nonspecific symptoms diagnostic procedures had to take a lot of possible causes under consideration. Presence of the tumour was not thought of as probable because of its rarity. Less than 2% of brain tumours in children are inborn. Congenital glioblastoma (cGBM) is a rare, malignant neoplasm characterized by diffuse and irregular growth which often makes a total resection impossible. Children with inborn brain tumours usually show the first symptoms 2 months after birth. Most of the cases neoplasm is localised supratentorial which contradicts given case report where the tumour was infratentorial . Median survival among treated patients is approximately 24 to 33 months. Presence of the cGBM is associated with bad prognosis and high mortality rate in the first week of life.

TITLE: POSTTRAUMATIC EMPTY SELLA SYNDROME AS A LIFE THREATING CONDITION.

AUTHOR: Justyna Wysocka

CO-AUTHORS: Karol Lasota, Aleksandra Kołodziej

SUPERVISOR: Beata Rybojad MD, PhD

AFFILIATION: Department of Emergency Medicine, Medical University of Lublin

Background: Severe multiple organ trauma is the cause of hospitalization at the Intensive Care Unit. Authors present a case of a pediatric patient who developed adrenal crisis 6 weeks after the initial trauma.

Case Report: Nine-year-old girl crushed by a tree, at first resuscitated by her parents, then by paramedics, who arrived at the scene, was transported and admitted to the Intensive Care Unit (ICU). Polytrauma CT showed: fractured skull, brain oedema, intracranial hematomas, right pneumothorax and fragmented right kidney. Pleural drainage and nephrectomy were performed. On the sixth day of the hospitalization the tracheal tube was removed, unfortunately due to progressive respiratory failure patient had to be intubated on the next day. After five days a tracheostomy was performed. Neurosurgical consult decided to remove epidural hematoma during craniotomy. On the 25th day patient was transferred to Surgical Ward. At that time her condition was stable, she was fed intravenously, had 11 points in Glasgow Coma Scale (GCS) and left-sided hemiparesis. After 3 weeks she came back to the ICU with low sodium levels, hypoglycemia, impaired consciousness and dehydration. Due to difficulty in correcting electrolytes abnormalities, levels of thyroid, adrenal and pituitary hormones were checked. Clinical condition and lab results lead to adrenal crisis diagnosis. Supplementation with cortisol and thyroid hormones was necessary. MRI scan of the central nervous system showed ischaemic changes and the empty sella syndrome. Patient was transferred to Neurology Ward with 13 points in GCS, left-sided hemiparesis and gastric probe.

Conclusions: In case of unexplained hypoglycemia and electrolytes abnormalities in a multiple organ trauma patient levels of cortisol, ACTH,TSH, T3 and T4 should be examined.

TITLE: FIBROELASTOMA AS A VERY RARE PRIMAL HEART TUMOR – A CASE REPORT.

AUTHOR: Weronika Topyła

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SUPERVISOR: Marek Prasał MD, PhD

AFFILIATION: Chair and Department of Cardiology, Medical University of Lublin

Background: Primal heart tumors are very rare. The most common are myxoma or lipoma. Fibroelastoma make up only 10% of heart tumors and usually without symptoms. However, presence of the tumor is connected with higher risk of peripheral embolism. The most common complications are: ischaemic heart disease, stroke, pulmonary embolus and sometimes even sudden cardiac death.

Case Report: 57-years old patient was admitted to the Cardiology Department in order to verify the presence of mass detected in the left atrium during echocardiography and CT examianation. CT showed pedunculated structure close to the insertion of frontal cusp of mitral valve, measurements 16x11x13 mm. TEE examination confirmed the presence of a round tumor in the same localization. Heart scans confirmed the morphology and localization typical of fibroelastoma. It was small, pedunculated tumor, its echogenicity was close to the cusp of a valve. Patient was asymptomatic, in physical exam without abberations.

Conclusions: Typically fibroelastoma comes from valvic endocardium. Usually we can find it on mitral or aortal valve. Mass described above suits the typical picture of fibroelastoma. In great probability it was possible to exclude the myoma, which usually has bigger size and irregular shape. As it was described in the case, it is usually without symptoms, however because of high potential of embolism it should be treated by cardiosurgery.

TITLE: CHEMOTHERAPY AND IMMUNOSUPPRESSIVE TREATMENT COMPLICATIONS: A CASE REPORT.

AUTHOR: Katarzyna Chrobok

CO-AUTHORS: Joanna Mitek, Aleksandra Marzęda

SUPERVISOR: Iwona Baranowicz-Gąszczyk MD, PhD

AFFILIATION: Chair and Department of Nephrology, Medical University of Lublin

Background: Burkitt's lymphoma (BL) is a type of high-grade non-Hodgkin lymphoma that develops from B lymphocytes. It is the most common type of non-Hodgkin lymphoma in children. BL is very fast-growing and aggressive, so symptoms often progress very quickly and the development of full-blown disease occurs within a few days to weeks. The treatment is based on chemotherapy. Presently, more than 90% of children with BL can be cured of the disease.

Case Report: We describe a 19 year-old woman who at age of 6 was diagnosed with bilateral renal BL treated with chemotherapy (COP,COPADM1, COPADM2). Despite of the treatment there was no return of renal function. It was decided to transplant kidney. Serious complications and toxicity of the treatment occured: bone marrow aplasia, CT patterns of fungal infection and paralytic ileus. The patient periodically suffers from infections of respiratory tract, fever, hematologic disorders (thrombocytopenia, leukopenia, anemia) or episodes of decreased renal graft.

Conclusions: Burkitt's lymphoma as a cancer characterized by rapid growth requires aggressive treatment. Chemotherapy is known to cause numerous side effects that occur both within a short time following treatment and also after many years. In the case described above, we can see that the incidence of side effects is not only the effect of the applied chemotherapy, but also immunosuppression which patient after organ transplantation require.

TITLE: A CASE REPORT OF HCV POSITIVE PATIENT WITH RENAL CELL CARCINOMA AFTER RENAL TRANSPLANTATIONS.

AUTHOR: Anna Kułak

CO-AUTHORS: Anna Rahnama, Maciej Kamiński, Monika Długoń

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AFFILIATION: Students' Scientific Association at the Chair and Department of Nephrology, Medical University of Lublin

Background: Recipients of organ transplant seem to have elevated de novo malignancy risk. It may be associated with immunosuppression and oncogenic viral infections.

Case Report: A case report of 72-year-old HCV+ patient diagnosed with end-stage renal disease due to glomerulonephritis since 1976. Patient underwent two renal transplantations in 1977 and 1978. Haemodialysis in Chair and Department of Nephrology, Medical University of Lublin has been continued since 1993. HCV infection date is unknown. During years patient was diagnosed with: atherosclerosis, chronic atrial fibrillation, hypertension, coronary artery disease, diverticulosis, renal osteodystrophy, emphysema, osteoporosis, osteoarthritis, hypothyroidism, secondary hyperparathyroidism and cataract. In 2010 abdominal ultrasound examination showed numerous cysts in the left kidney with largest diameter of 44mm. In 01.2016 patient underwent left nephrectomy. Pathological examination revealed adenocarcinoma – renal cell carcinoma (RCC), carcinoma papillare type 2. During hospitalization in 09.2016 axillary and supraclavicular lymph node metastases were revealed. Patient is qualified for palliative care.

Conclusions: Patients with HCV may have elevated RCC risk. De novo malignancy risk might be higher in patients who are transplant recipients.

TITLE: POSSIBLE CAUSES OF ERYTHROMELALGIA.

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Background: Erythromelalgia is a rare condition which etiology is still not clear. It may be associated with neoplastic development, medicaments or genetic background. The episodes of erythema, pain and warmth of the extremities are present. The diagnosis is based on patient's medical history and physical examination. Simultaneously, diagnostic procedures should be taken in order to differentiate between other conditions.

Case Report: We present a case report of 48-year-old patient diagnosed with seronegative arthritis HLA B27+ and erythromelalgia. In 1990 patient suffered from inflammatory back pain (lumbosacral region). In 1998 swelling in the right knee led to diagnostic knee arthroscopy, synovectomy and rehabilitation. Later, patient was diagnosed with cervical osteoarthritis and dactylitis. In 2000 patient was diagnosed with seronegative arthritis HLA B27+ and treated with gold salts, methotrexate and sulfasalizine without good response. Afterwards, patient was diagnosed coxitis, osteoarthritis of left knee and elbow joints. From 2004 to 2009 patient was treated with leflunomide. In 2007 patient was diagnosed with erythromelalgia due to the symptoms: warmth, burning pain and erythema of feet. From 2010 to 2015 biological therapy was conducted. In 2016 symptoms of erythromelalgia has developed.

Conclusions: It was concluded that the condition should be deeply investigated due to uncertain etiology of the disease. The diagnosis is based on patient's medical history and physical examination. Simultaneously, diagnostic procedures should be taken in order to differentiate between other conditions. Erythromelalgia may be associated with intake of the certain medicaments, genetic predisposition or undiagnosed neoplastic development.

TITLE: MERKEL CELL CARCINOMA IN ILIAC NODES WITHOUT PRIMARY FOCUS.

AUTHOR: Paweł Szybisty

CO-AUTHORS:

SUPERVISOR: Anna Brzozowska MD, PhD

AFFILIATION: Department of Oncology, Medical University of Lublin

Background: Merkel cell carcinoma (MCC) is a rare and highly agressive (33% mortality) skin cancer usually arises on the sun-exposed skin of elderly patients. MCC has a high propensity for local and regional recurrence and distant progression. The first sign of Merkel cell carcinoma is usually a fast-growing, painless nodule. The main purpose of this presentation is to draw attention to extremely rare case of MMC found in inguinal nodes without skin representation.

Case Report: 70 year-old man suffering from prostate cancer (left lobe, Gleason 2+2) was reffered to the clinic witch enlarged inguinal nodes. In section obtained from superficial inguinal node have been recognized neuroendocrine high-grade carcinoma with immunophenotype CK PAN(+) chromogranin A (+), LCA (-) which were indicated merkel cell carcinoma. Performed scintigraphy revealed enlarged, policyclic, grouped lymh-nodes located in left iliac fossa (87x64mm) and right groin (109x93mm), nodular changes was characterized by overexpression somatostatin receptors. Skin primary focus haven't been recognized. In the first chemotherapy cycle was applied: Cisplatin, Etoposid for 5 days and Paclitaxel in the first day. In 2016 patient recieved radiotherapy in total dose of 66Gy. CT made in january and june 2016 shows significant reduction of nodal dimensions: left iliac fossa (44x24mm), right groin (20x13mm).

Conclusions: Exeptionally merkel cell carcinoma may present in internal organs without skin focus, which may postpone implementation of effective treatment. Early chemotherapy witch addition of radiotherapy in this case gave a good regression of tumor size.

TITLE: USEFULESS OF PET-CT IN QUALIFICATION FOR SURGICAL TREATMENT IN ALK POSITIVE LUNG ADENOCARCINOMA PATIENT - CASE REPORT.

AUTHOR: Anna Sieńko

CO-AUTHORS: Karolina Rożenek, Piotr Nalewaj, Agata Skrzyńska, Justyna Kwolczak

SUPERVISOR: prof. Paweł Krawczyk MD, PhD, Michał Szczyrek MD, PhD

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Background: Since its invention in 1960s positron emission tomography (PET) has become a very important imaging technique in radiology. Fusion of radioactive tracers technology with CT or MRI scanning created diagnostic opportunity to scan the entire human body in search for oncological, neurological, cardiological and many other disorders. But as the development of PET-CT method occurs, more and more questions concerning its actual usefulness as a diagnostic tool in oncology arise, especially as its operating cost significantly exceeds operating costs of ordinary CT or MRI devices.

Case Report: 55 year old female patient with left lung lobular adenocarcinoma initially defined as IA (c.T1aN0M0) stage was qualified for upper left VATS lobectomy. During the diagnostic and surgical qualification procedures, the patient underwent a chest CT scan showing spicular tumor without pathologically enlarged mediastinal lymph nodes. In order to rule out the presence of metastases in lymph nodes the patient subsequently underwent a PET-CT scan which also didn't show any pathologies concerning lymph nodes. Consequently, the patient underwent VATS lobectomy with lymph nodes resection. Histopathological assessment of surgical material revealed the presence of cancerous cells in lymph nodes, which previously were described in CT as well as PET-CT as free from metastases. Therefore, stage IIIA (p.T1aN2M0) of lung adenocarcinoma was diagnosed. Moreover, wild-type of EGFR gene and ALK gene rearrangement were found. Thus, the patient required adjuvant chemotherapy and radiotherapy. She received three courses of adjuvant chemotherapy with carboplatin and vinorelbine. Adjuvant radiotherapy was scheduled after the last course of chemotherapy. Throughout the chemotherapy the patient presented with mild anemia and had two episodes of severe (4th degree CTCAE) neutropenia. Despite filgrastim therapy the risk of severe neutropenia was still high. Chemotherapy was terminated after three complete courses.

Conclusions: In adenocarcinoma patients, false negative results of PET-CT examination concerning metastases in lymph nodes are being occasionally observed. In this case report, false negative results of PET-CT in patient with ALK gene rearrangement are being described for the first time. Therefore we hypothesize that the presence of this genetic abnormality in adenocarcinoma patients may result in reduction of cancer cells' metabolism, hence the decrease of PET-CT sensibility when used as a diagnostic tool in such patients.

TITLE: BRAINSTEM STROKE SYNDROME CASE REPORT.

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CO-AUTHORS: Véronique Petit

SUPERVISOR: Jacek Jaworski, MD, PhD, Prof. Konrad Rejdak, MD, PhD

AFFILIATION: Department of Neurology, Medical University of Lublin

Background: Stroke is a life threatening condition in which brain's blood supply is diminished resulting in neuron cells death. There are two main types of stroke: ischemic (87%) and hemorrhagic (13%). Brainstem stroke is severe and its symptoms can vary from vertigo, dizziness and double vision, through hemiparesis, dysarthria up to locked-in syndrome. Survival rates vary individually based on spectrum of symptoms and type of stroke.

Case Report: The aim of the study is to present a case report of a 63 years old male with a brainstem stroke. Patient was admitted to the emergency department due to intense headache, speech disorders and weakness of left upper and lower limbs appearing later that day. Neurological examination during admission to the Clinic of Neurology revealed impairment of consciousness, somnolence, right-sided gaze palsy , dysarthria, dysphagia and paralysis of the left side of the body. Computer tomography of the head didn't show any intracranial lesions or evidence of hemorrhage while Angio-CT revealed right vertebral artery and basilar artery occlusion. Further Doppler imagining of these arteries showed signs of their occlusion and presence of arteriosclerotic plaques. ECG showed atrial fibrillation (probably paroxysmal). During hospitalization, the patient's state improved slightly, including improvement in speech and recanalization of the mentioned arteries.

Conclusions: Brainstem Stroke is a serious, life threatening condition that requires rapid diagnosis, treatment and rehabilitation. Its' symptoms tend to progress over time and can vary based on which region of the brain stem becomes damaged. Prognosis is poor.

TITLE: IG G4 RELATED THYROIDITIS AS A DIAGNOSTIC CHALLENGE.

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Background: IgG4-related thyroiditis is clinically different from non-IgG4-related thyroiditis, characterized by earlier onset, lower female to male ratio, more rapid and aggressive disease course, and higher levels of circulating thyroid autoantibodies compared with non-IgG4-related thyroiditis.

Case report: A 35-year-old woman was referred to out-patient clinic due to thyroid dysfunction. Lab tests showed free thyroxine (FT4) 24.7 ng/L thyroid stimulating hormone (TSH) < 0.001 mIU/mL, anti-thyroid peroxidase antibody 354 IU/mL, anti-thyroglobulin antibody > 2,000 IU/mL, and thyrotropin binding immunoglobulin 0.5 IU/L. In thyroid ultrasound heterogeneous echotexture with diffuse hypoechogenicity was found. The patient was diagnosed with Hashimoto's thyroiditis in the phase of hashitoxicosis, treatment was not recommended. 6 months later patient presented with soft and diffuse goiter with tenderness, general symptoms of dizziness, constipation, edema and fatigue; in laboratory tests: FT4 3 ng/L, and TSH > 36 µIU/mL. The patient's thyroid function normalized with levothyroxine, which relieved the symptoms. Significant thyroid pain had returned 6 months later. The left lobe of her thyroid was nodular, hard, and tender. Thyroid function was normal, ultrasound showed hypoechoic and hypovascular area in the left lobe. Analgesics and 20 mg/day prednisolone were prescribed. After 3 days of treatment, thyroid nodule decreased in size and softened, pain was alleviated. After 4 weeks steroids were gradually discontinued, but within 2 weeks the thyroid gland had again enlarged and become tender, which necessitated continuous administration of 7.5 to 20 mg prednisone. Ultrasound showed progressive and geographic enlargement of the hypoechoic area in both lobes. Thyroid fine-needle aspiration cytology revealed follicular cell clusters with oncocytic changes in lymphoplasmacytes. After 6 months of continuous administration prednisone therapy, the patient underwent total thyroidectomy. The tissue pathology revealed severe inflammation and fibrosis, infiltrative plasmocytes were mainly IgG4-positive cells.

Conclusions: IgG4-related systemic diseases appear to respond well to glucocorticoid therapy. A precise and early diagnosis of IgG4-related thyroiditis is important for adequate follow-up and treatment. Despite the incidence and clinical significance of IgG4-related thyroiditis, the clinical diagnostic criteria for this disease have yet to be established.

TITLE: ELECTROCARDIOGRAPHY AS A NECESSARY DIAGNOSTIC TOOL IN THE CASE OF THE DISEASE WITH NONSPECIFIC CLINICAL SIGNS AND SYMPTOMS: BRUGADA SYNDROME.

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SUPERVISOR: Marek Prasał MD, PhD

AFFILIATION: Chair and Department of Cardiology, Medical University of Lublin

Background: Brugada syndrome (BrS) is a rare genetic disorder recognized by clinical symptoms and findings in the electrocardiogram (ECG). It concerns patients without abnormalities in the heart's structure. BrS is an autosomal dominant channelopathy. It is usually related to the defect of the sodium channel which predisposes to arrhythmias. BrS was first described in 1992 on patients with sudden death who presented similar abnormalities in ECG. Typical changes may be observed all the time but sometimes class I antiarrhythmic drugs must be administrated to show them. There are three characteristic ECG patterns. The symptoms typically expose in men between 20 and 40 years old. Different factors, such as fever or intoxication, can lead to arrhythmia. It can cause chest discomfort, syncope or sudden death. An implantable cardioverter-defibrillator (ICD) is the only possibility of the prevention of sudden cardiac death due to ventricular fibrillation.

Case Report: Male patient, aged 45, came to the Emergency Ward because of heart palpitations and intensification of burning chest pain presented for two weeks. Biochemical markers of myocardial injury were negative. There were some suspicions of stable angina. ECG shows changes suggesting right bundle branch block (RBBB) and repolarization abnormalities in the precordial leads. Early repolarization syndrome was suspected. Because of increasing atrioventricular and intraventricular conduction defects, the patient was admitted to the Coronary Care Unit for further diagnosis and treatment. ECG pattern presented typical changes for classic "Type I Brugada pattern" consisting of RBBB with downsloping ST segment elevations greater than 2 mm at the J-point and inverted T waves in leads V1 through V3. The patient was observed with suspected BrS.

Conclusions: BrS belongs to rare cardiac disorders. Patients present different heart disease's signs and symptoms. There is no pathognomonic clinical symptom which can be typical for BrS. ECG is used to make a final diagnosis. A lot of interpretative difficulties are the results of the other disorders masking the characteristic ECG changes. Without clinical manifestation, only "Brugada pattern" in ECG can be recognized. Prognosis is relative to the clinical results of arrhythmia. Despite the lack of the specific treatment, ICD can be used as prevention of sudden death in the case of malignant ventricular arrhythmia.

TITLE: POSTPARTUM ATYPICAL HEMOLYTIC UREMIC SYNDROME: A CASE REPORT.

AUTHOR: Aleksandra Marzęda

CO-AUTHORS: Katarzyna Chrobok

SUPERVISOR: Michał Borys MD, PhD

AFFILIATION: Students' Scientific Association at the Second Department of Anesthesiology and Intensive Therapy, Medical University of Lublin

Background: Atypical Hemolytic Uremic Syndrome (aHUS) is a heterogenous group of diseases that may be due to genetic mutations, autoantibodies affecting the regulation of the alternative complement pathway. The pregnancy is one of the many trigger for an aHUS episode. Characteristic triad of symptoms includes microangiopathic hemolytic anemia, thrombocytopenia and acute renal failure. Over 75% of pregnancy associated aHUS is a life-threatening condition that requires prompt diagnosis and therapy.

Case Report: We present a case of a 27-year-old woman with postpartum atypical hemolytic uremic syndrome. She was admitted to the intensive care unit due to thrombocytopenia, hemolytic anemia, and acute kidney injury. At admission, laboratory investigation revealed serum creatinine of 4.06 mg/dL, hemoglobin 7.7 g/dL, platelet count 109 000/mm3. Peripheral smear revealed marked schistocytosis. ADAMTS13 activity was 69%. The patient was initiated on daily plasmapheresis, transfusion of packed red blood cells and fresh frozen plasma. She also required renal replacement therapy (CVVHD - continuous venovenous hemodialysis). The patient was subsequently treated with rituximab, a monoclonal antibody against CD20. Her clinical condition improved, but platelet count decreased to 34 000/mm3. For further treatment the patient has been directed to the Department of Nephrology, Hypertension and Kidney Transplantation in Lodz.

Conclusions: Diagnosis of postpartum aHUS is challenging, but correct diagnosis and timely management are crucial to improve outcomes. Treatment of aHUS mainly includes plasma infusions or plasma exchange and anti-complement therapy. Diagnosis in aHUS is possibile due to laboratory assessment (complement component measurements, genetic analysis, detection of plasma anti-CFH or CFI antibodies, ADAMTS13 activity) and pathological diagnosis of renal disorders.

CASE REPORT II

TITLE: DEVELOPMENT OF BORRELIA BURGDORFERII INFECTION AND DIFFICULTIES WITH TREATMENT: A CASE REPORT FROM AN ENDEMIC AREA IN POLAND.

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Background: Lyme disease is considered one of the most common tick-borne diseases in Europe and the USA. An epidemiological account in 2016 showed a record number of Lyme borreliosis (LB) - 21 220 official cases. Lyme disease is not always treatable with current antibiotic therapy causing some chronically ill patients to experience prolonged symptoms irrespective of intense chemotherapeutic regimen.

Case Report: This exemplary case report describes a secondary Borreliaburgodorferi infection including issues concerning the decision-making process and optimal antibiotic selection and dosage. The authors present a case report of a 31-year old woman with Lyme disease initially diagnosed three and a half years ago. The patient denied characteristic symptoms related with initial onset, such as erythremamigrans or lymphocytoma, however secondary borreliosis yielded rheumatological and neurological disorders prompting laboratory testing. ELISA analysis demonstrated increased typical IgG antibodies which was confirmed by Western-Blot. Other possible tick-borne co-infections were excluded. Family history was unremarkable. Initial treatment, in Poland, included the standard recommended schedule, however results were unfavorable with worsening symptoms. In 2016, the patient underwent treatment recommended by International Lyme and Associated Disease Society (ILADS), based on long-term concentrated doses of antibiotics. Post-therapy the patient denied symptoms combined with secondary borreliosis. Serological analysis confirmed decreased level of IgG antibodies. Unfortunately, six months after ending ILADS therapy, her state of health deteriorated with reoccurring symptoms. Lab observed increased IgG as well as IgM, suggestive of reactivation.

Conclusions: Early diagnosis with on-time optimal antibiotic therapy are fundamental in recovering patients with borreliosis. These findings highlight the importance of individualistic treatment and antibody level monitoring throughout therapy. Symptom severity and prolongation with current therapies justifies a search for new treatment options. It is significant to run further research on antibiotic therapy in chronic Lyme disease to obtain successful treatment and improve patient quality of care.

TITLE: INSULIN POISONING WITH SUICIDE INTENT.

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Background: Insulin is a polypeptide hormone, composed of 51 amino acids secreted by the beta cells of the pancreas. It is used in the treatment of type 1 diabetes-with the destruction of 85-90% of the beta cells of the pancreas and, as a result, absolute deficiency of insulin- and type 2 diabetes. The most important, but at the same time a logical side effect of insulin is hypoglycemia, which may be the result of iatrogenic or suicide overdose. The incidence of intentional overdose of insulin for suicide is difficult to determine - the most of the available data in the literature are the descriptions of individual clinical cases.

Case report: A 87-year-old female patient was brought to the Cardiotoxicological Department by a team of Emergency Medical Service with suspicion of poisoning with insulin or oral antidiabetic drugs. From rescuers' report we knew that the patient was found at home, unconscious, with self-inflicted cuts on the forearms. A week before the incident the family observed memory and allopsychic orientation deterioration. Glycaemia measured by the rescue team - 0 mg/dl. During transport and in the Emergency Department the infusions of 40% glucose were given due to recurrent hypoglycemia. At the time of the admission the patient's condition was severe, she remained unconscious, hemodynamically stable and breathing, with glycaemia level-120 mg/dl. The initial severe state persisted during the first week of hospitalization. The blood glucose levels were stabilized, effective electrical cardioversion was performed. Antibiotics with a wide spectrum were given as a prevention of hospital pneumonia. The patient was discharged after nearly four weeks of hospitalization in overall stable state, adequate to existing chronic diseases, without identified neurological complications.

Conclusions: Symptomatology of the insulin poisoning include: prolonged and recurrent hypoglycemia, neuroglycopenia, hypokalemia, excessive sweating, anxiety, tremors and hunger. It should be noted that the degree of hypoglycemia is not correlated with the dose of insulin taken. In the above case, there has been a severe intoxication with insulin taken for suicidal reasons, but effective early treatment, as well as adaptability of the patient have prevented severe neurological complications, coma or death.

TITLE: DIFFICULT DIAGNOSIS OF GRANULOMATOSIS WITH POLYANGITIS.

AUTHOR: Joanna Ruszczyk

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Background: Granulomatosis with polyangitis (GPA) is characterized by the occurrence of necrotizing granulomatous vasculitis of medium and small vessels. Kidneys and the respiratory tract are the most commonly affected, nevertheless the variety of clinical symptoms may be the cause of difficulty in correct diagnosis.

Case report: A case report of 64-year-old patient diagnosed with GPA. In 2007 patient was treated because of treatment-resistant, long-term skin ulceration in the right leg. Patient with anemia, hypertension, hypothyroidism and ulceration was sent to Nephrology Department. In 2012 lab test were performed (proteinuria 100 mg/dl, RBC present) and she was diagnosed with chronic kidney disease (CKD) stage 5. Due to medical history of kidney disease, leg ulceration and numerous epistaxis episodes antibodies c-ANCA and p-ANCA were evaluated. Due to positive result of cANCA, laryngologic consultation was found useful to diagnose a significant loss of nasal septum. Patient was diagnosed with GPA based on physical examination and medical history. After implementation of effective therapy, patient condition was improving.

Conclusions: Early diagnosis of GPA may prevent complications due to quick implementation of effective treatment

TITLE: RECCURING MACROPHAGE ACTIVATION SYNDROME IN THE COURSE OF SYSTEMIC JUVENILE IDIOPATHIC ARTHRITIS.

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Background: Juvenile idiopathic arthritis (JIA) is the most common rheumatic disease among children. In the course of a systemic JIA there is a risk of life-threatening macrophage activation syndrome. It is a secondary hemophagocyticlymphohistiocytosis that may occur in the course of infection, cancer and autoimmune disease. Typical MAS symptoms are high fever, hepatosplenomegaly and lymphadenopathy. Laboratory abnormalities in MAS include elevated ferritin, triglycerides and transaminases levels and decreased levels of fibrinogen and platelets.

Case report: The girl at the age of 1 year 7 months, was admitted to the Paediatric Department because of fever since a few days. In the physical examination inflammation of the joints of the upper and lower limbs, macular rash and lymphadenopathy were found. In blood count anemia, leukocytosis and thrombocytopenia were found. Laboratory tests showed elevated markers of inflammation. The child's condition did not improve despite antibiotic therapy. Further tests showed high levels of ferritin, transaminases, D-dimer and low level of fibrinogen. MAS in the course systemic juvenile idiopathic arthritis was diagnosed. The girl was treated with glucocorticosteroids, cyclosporine, methotrexate and immunoglobulin. Her condition has improved. The patient was discharged from hospital with instructions of taking prednisone, cyclosporine and methotrexate. Because of the recurring symptoms of JIA biological therapy was included. After almost a year of remission biological therapy was discontinued. The child remained without treatment for 1.5 years. Next hospitalization took place due to fever and pain in the joints, preceded by a respiratory infection and herpes simplex infection. Exacerbation of JIA was diagnosed and girl was treated with GKS. After a period of 2-weeks improvement, the child's condition worsened. Laboratory tests have shown high levels of inflammation factors, high levels of ferritin, D-dimer and low levels of fibrinogen and thrombocytopenia with leukopenia. MAS was diagnosed again. Cyclosporine and glucocorticosteroids were used, the child's condition improved.

Conclusions: Diagnosis of MAS is difficult, differential diagnosis of other diseases with a high fever, including sepsis, infective endocarditis and meningitis should be performed. Knowledge of MAS criteria provides the quick diagnosis and effective treatment which is crucial for the reduction of mortality in the course of the disease.

TITLE: IMMUNOTHERAPY A NEW STRATEGY OF TREATMENT IN LUNG CANCER.

AUTHOR: Justyna Kwolczak

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SUPERVISORS: prof. Paweł Krawczyk MD, PhD, Michał Szczyrek MD, PhD

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Background: Lung cancer is a malignant disease originating from epithelial cells. The main types of the disease are small-cell lung cancer (SCLC) and non-small-cell lung cancer (NSCLC). NSCLC treatment depends on tumor staging, and may involve a surgery, chemotherapy and radiotherapy. However, if these methods are unsuccessful, other medications can be administered, one of which is Nivolumab - a human IgG4 anti-PD-1 monoclonal antibody. Previously used in melanoma, it was recently registered as a second-line treatment for NSCLC and renal cancer.

Case report: 66-year-old man with a broad cardiological and pneumological history was diagnosed with squamous NSCLC stage IIIA of the right lung by EBUS-TBNA on 20 NOV 2015. Patient was schedualled for potential surgical treatment after neoadjuvant chemotherapy (cisplatin and vinorelbine) and radiotherapy. Unfortunately, CT scan after treatment revealed progressive disease. Therefore, the patient was qualified for second line Nivolumab treatment in Expanded Access Programme. After three cycles of well tolerated Nivolumab treatment patient developed a stroke and underwent thrombectomy. Soon after he developed respiratory failure. CT scan of the chest was performed, which showed a partial regression of malignant disease, but also revealed extensive pneumonitis. Despiteaggressivetreatmenteventuallypatientdied of cardiacarrest.

Conclusions: New methods of treatment such as immunotherapy are becoming more and more common in everyday practice. Even though they are deemed to be safe with extensive data from clinical trials, we have to remember about new kinds of side effects that must be taken into account, especially in patients with risk factors.

TITLE: VISION DISORDERS AS A FIRST SYMPTOM OF PEADIATRIC BRAIN TUMOUR- CASE REPORT.

AUTHOR: Justyna Kwolczak

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SUPERVISOR: Joanna Nurzyńska - Flak MD, PhD

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Background: Neoplasms of central nervous system are most common type of solid tumours found in children, accounting for up to 20% of all cancers. Each year in Poland more than 300 children are diagnosed with brain tumours. Signs and symptoms of brain tumours are usually associated with increased intracranial pressure. The typical symptoms include: headache, vomiting (most severe in the morning), crossed-eyes, altered mental status and, in case of infants, increase in skull size. We present a case of a patient with brain tumour presenting with vision disorders as a first symptom.

Case Report: On September of 2015, a previously healthy 5-year-old boy was admitted to the Ophthalmology Clinic due to loss of visual acuity which was noticed by his father. The child hadn't reported any symptoms. The investigation pointed to far-sightedness and the patient started to wear glasses. However, the vision defect worsened and patient presented nystagmus. On December of 2016 patient had head MRI, which revealed tumour in parasellar and right temporal area, infiltrating the hypothalamus, optic chiasm and optic tracts. Diagnosis was confirmed by a biopsy. Histopathological examination revealed astrocytoma pilomyxoidale. Due to astrocytoma pilomyxoidaletumours irregular margins and adherence to neurovascular structures surgeries are ineffective. Chemotherapy is the first line of treatment. On February of 2016 patient received chemotherapy according to PGBN protocol. Although last MRI scan reveals decrease in tumour mass, patient suffers from left-eye blindness, huge far-sightedness in right eye (10D) and residual nystagmus. The patient still receives maintenance therapy once a month (40th week of treatment).

Conclusions: Though childhood brain tumours present with vision disorders in up to 50% of cases, vision disorders being only symptom may cause diagnostic problems. Paediatric patients, not possessing reading and writing skills, may not complain about loss of visual acuity. The time from onset of symptoms to final diagnosis can be extended. It is important for parents and general practitioners to be aware of fact, that even subtle child behaviour and development changes may presage brain tumours.

TITLE:A 62 YEAR OLD FEMALE PATIENT WITH PHEOCHROMOCYTOMA.

AUTHOR: Katarzyna Mendyk[1]

CO-AUTHORS: Szymon Mendyk, Weronika Sikora[1], Monika Kowalik[2], Michał Góra[1]

SUPERVISOR: Ewa Obel MD, PhD

AFFILIATION: [1]Department of Endocrinology, Medical University of Lublin, [2]Chair and Department of Endocrinology, Jagiellon University Medical College

Background: Pheochromocytoma is a rare neoplasm arising from chromaffin cells and especially localized in adrenal gland (80%). The remaining 20% of paragangliomas are localized outside of adrenal gland. That tumor is a rare cause of arterial hypertension (approximately 0,1% of all patients with hypertension). The symptoms are mainly related to overproduction and releasing catecholamines. Symptoms that occur with disease: paroxysmal increase of blood pressure, rapid heart rate, headache, skin pallor, muscle tremor, hyperhidrosis, a feeling of anxiety.

Case Report: A 62-year-old female patient was admitted to Endocrinology Department (01.2013) with tumor of the right adrenal gland detected incidentally on USG examination (2012). CT examination showed areas of necrosis within the tumor. The patient was treated for hypertension for 6 years and also presented rapid heart rate, paroxysmal hypertension and skin pallor for over a year. About 5 years ego diabetes was diagnosed and treated with metformine, but because of the poor glycemic control - sulphonylourea-derivatives (glimepirid) was added. Based on the increased levels of metoxycatecholamines in the 24-hour urine collection, initially pheochromocytoma has been diagnosed. As the preparation to operation patient has been dosed with alpha - blockers (doxazosine). Patient has been informed by the doctors about importance to regularly measure blood pressure and that there is a possibility of increase of the dose of alpha- blocker. In March 2013 an adrenal gland tumor was removed laparoscopically. During the next hospitalization (09. 2013) many measurements of blood glucose level have been performed which showed that glycemic control was improved, therefore a diabetic diet was recommended.

Conclusions: Despite the fact that pheochromocytoma is a rare disease it should be taken into consideration for patients who presents symptoms, because early recognition is very important to protect them against complication related with cardiovascular system.

TITLE: 36 YEAR OLD MAN WITH CENTRAL DIABETES INSIPIDUS HYPOPITUITARISM IN THE AXIS OF THE ADRENAL, THYROID AND GONADOTROPIN AFTER TRANSSPHENOIDAL ADENOMECTOMY.

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Background: The authors present a case of a 36-year-old man who was admitted to the Department of Endocrinology Hospital in Lublin because of diagnosis and follow-up treatment after transsphenoidal surgery of clinically inactive pituitary adenoma. Pituitary tumors can be divided due to local invasiveness and malice – we distinguish non-invasive and invasive adenomas, and cancer. Another division is based on immunohistochemical staining and hormonal activity. The final criterion for classification is the division according to the size. Symptoms of pituitary tumors are abnormal hormonal axis and the "mass effect" of the tumor. Treatment depends on the assessment of pituitary function.

Case report: The patient was admitted to the Hospital in May 2013 because of severe pain in the parietal area, double vision and loss of the temporal visual field. Pituitary tumor of the size of 25 mm with possible bleeding inside was found after angio-CT had been made. Planned surgery of pituitary tumor was performed and postoperative tests revealed secondary underactive adrenal axis, thyroid and gonadotropin. Hormone therapy was recommended. First hospitalization after this operation was in June 2013, during which the tests confirmed the coexistence of hypopituitarism in terms of the axis of adrenal, thyroid and gonadal of central diabetes insipidus. Next hospitalization was in September 2013 and the treatment of hormone substitution was corrected. Another control medical examination MRI of the pituitary was done about 4 months after the last hospitalization and a fragment of the pituitary gland of normal parenchyma was found. Laboratory tests carried out in June 2014 confirmed the necessity of extension of the substitution treatment.

Conclusions: Despite the quick operation, some of the patients have complications in the form of hormonal disturbances. Central diabetes insipidus, hypogonadotropic hypogonadism, and organ failure in the axis corticotroph and thyreotroph may appear. Patients must pay particular attention to maintaining proper fluid balance and in some cases increase the doses of corticosteroids and appropriate the adjustment of drugs. In the case of permanent damage of the pituitary gland lifelong substitution treatment is needed.

TITLE:THYROTOXICOSIS INDUCTED BY ADMINISTRATION OF IODINATED CONTRAST IN A 76- YEAR FEMALE PATIENT- CASE REPORT.

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Introduction: Nodular goiter is one of the most common diseases related to the thyroid gland. According to statistical data, the goiter affects more than 10% of the general population. Most occur in endemic areaS known for iodine deficiency. Iodine insufficiency plays a significant role in the pathogenesis of the disease. In Europe, the risk of diseases associated with iodine deficiency concerns up to 140 million people and 92 million has the goiter. Non-active nodular goiter can be diagnosed with the presence of nodules in the thyroid gland without accompanying clinical and laboratory symptoms of thyroid gland dysfunction. There are plenty of options of nodular goiter treatment: conservative treatment, L- thyroxine therapy or surgical treatment.

Case report: 76 year- old female was diagnosed with a nodular goiter and was treated by L- Thyroxine for last 25 years. The systematic reduction in the goiter volume was observed. In the last period, the patient fell ill to pneumonia. Due to the lack of satisfactory treatment results and lesions in the X-ray examination, Chest CT with contrast was performed. After about two weeks, the patient developed symptoms of hyperthyroidism. In the peripheral blood examination reduced levels of TSH and elevated levels of free thyroid hormones (fT3, fT4) was found.

Conclusions: Iodine-induced hyperthyroidism is a rare, but potentially dangerous complication of radiological examination using iodine contrast, especially in patients treated with L-thyroxine because of neutral nodular goiter.

TITLE: ACCIDENTALLY DETECTED BILATERAL WILMS TUMOR IN A ONE YEAR OLD PATIENT.

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Background: Wilms tumor (nephroblastoma) is the most common kidney cancer among children. The average of illness onset is 3,5 years old. Despite the fast growth, tumor is asymptomatic for a long time. Sometimes it can cause fever, stomach ache, vomiting and hematuria. The canceraffects one kidney in 90-95%.

Case report: In a one-year-old patient, despite the asymptomatic process, doctors diagnosed urinary tract inflammation, because of inflammation markers in urinalysis. Lab results alignment was obtained after antibiotic therapy. The child's kidney USG was recommended, because of father's kidney birth defect (horseshoe kidney). Test revealed lesion in left kidney. The patient was referred to Haematology and Oncology department in Lublin with suspected Wilms tumor. In time of the admission to hospital, she was on good condition, without any pain. Palpation examination revealed pathological mass in the left hypochondrium. Laboratory test was correct. The TK revealed lumpy lesion of lower part of the left kidney and a change of the upper pole of the right kidney, which was invisible in the previous USG. There weren't both lymphadenopathy and lung lesions. Doctors, based on clinical manifestation and exams, diagnosed bilateral Wilms tumor VO. Preoperative chemotherapy was started which was tolerated very well. It could be observed only periodic fever and malaise. The next step of treatment was a removal surgery of cancerous lesions – bilateral heminephrectomy keeping normal parenchyma of both kidneys. Histopathology exam revealed total necrosis of removed right kidney's tumor. Tumor of left kidney is still under examination. Post-surgery chemotherapy was suggested as a further treatment. The choice of treatment depends on the full histopathology test results of material from both tumors.

Conclusions: foregoing case is an example of asymptomatic cancer progress. Wilms tumor, due to its nature, rarely gives symptoms at the beginning. It's very important to perform systematic abdominal palpation examinations and immediately do USG in case of deviations in a physical examination. It will allow to find cancerous lesions and provides to early treatment initiation. In many cases, it is possibility to apply less aggressive chemotherapy – bilateral heminephrectomy.

TITLE: CASTLEMANS DISEASE AS RARE HEMATOLOGIC CONDITION OFFENDING IN DIAGNOSTIC AND TREATMENT.

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Background: Castleman's disease (CD) is a rare hematological condition belonging to the group of nonclonal lymphoproliferative disorders. Etiology and pathogenesis are still not unequivocally resolved. Occurrence of this disease is associated with HHV-8 infection or immunological dysfunctions. Its development depends on proinflammatory cytokines (IL-6). Hematologists distinguished two types of CD: more common unicentric limited to single lymph node and feature with better prognosis and less common multicentric (MCD) with worse prognosis. Localized CD could be successfully treated by surgery but still there is no unambiguous guidelines in management of MCD.

Case report: Patient with generalized mild lymphadenopathy was diagnosed towards lymphoma. Negative result of bone marrow examination and ambiguous view in CT scan did not allow to confirm the patient with systemic lymphoproliferative neoplasia and induced ambulatory observation. In the next two years enlarging of lymph nodes and further deterioration in general condition (frequently presented and prolonged pneumonia) posed an indication to extend diagnostics by PET-CT scan, bronchoscopy and mediastinoscopy with lymph node biopsy. High metabolic activity of lymph nodes indicated in PET-CT scan in correlation with characteristic histopathological view enabled to diagnose plasma-cell type of multicentricCastleman's disease. Variant of the disease found in this case is marked by unpropitious prognosis and lack of evidenced effective treatment. Initiation of steroid agents (pulses of Prednisone and Methylprednisolone) allowed to reach temporary response but in long period of time disease was tend to progress and featured refractoriness. It seems that new experimental management like Siltuximab (anti Il-6 monoclonal antibody) could be promising alternative for the patient but still there is no infallible evidence of effectiveness of such therapy.

Conclusions: Choice of treatment in Castleman’s disease depends on type of disorder, course of the disease and reponse to standard management. Some patients, particularly with disseminated lesions could not be cured with classical regimen. It is necessary to pursue studies leading to established, clear recommendations for treatment of this rare condition and develop new methods to cure complicated cases of CD.

TITLE:ANXIETY AND NEUROTIC DISORDER, FIRST SIGNS OF HUNTINGTONS DISEASE.

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Background: Huntington's disease (HD) is a rare, progressive, neurodegenerative, inherited disease. It's caused by autosomal dominant mutation in IT15 gene, coding huntingtin, localized in 4p16.3 chromosomal locus. Due to excessive number of CAG repeats 36-250 (normally 26), mutated gene end product is unstable. Huntington's disease is typically inherited from parents, however about 10% of cases result from de novo mutation. Symptoms usually start between age of 35 to 44 and include subtle changes in personality, decrement in cognitive functions. The most noticeable symptoms consist of chorea: random and uncontrollable movements, resembling dancing.

Case report: The aim of the study is to present a case report of a 55-year- old female diagnosed to have Huntington' s disease. Patient was admitted to the Clinic of Neurology due to balance disorders for 3 years at first affecting muscles of the head. Symptoms intensified gradually and involving entire body. Additionally, patient has been experiencing anxiety and neurotic disorder since about 6 years. Additionally, concentration and memory deficits with inadequate behavior was noticed. Patients family is not burdened with this disease, but her son has been diagnosed with schizophrenia. Neurological examination during admission to the Clinic of Neurology revealed presence of choreatic movements. During hospital stay the patient underwent thorough clinical workup, including psychological tests, computed tomography of the head, EEG study and genetic molecular tests. Psychological tests showed features of subcortical dementia. Computer tomography of the head show cortical and subcortical cerebral atrophy and no intracranial focal lesions. EEG was not significant. Genetic molecular tests revealed more than 40 repetitions of trinucleotide CAG sequence in 4p16.3 locus.

Conclusions: Treatment of HD consist of pharmacological control of choreatic movements, psychological advice and care. In order to improve quality of live and decreases the severity of involuntary movements, the patient was symptomatically treated with Haloperidol. Huntington's disease diagnostics is quite difficult with only symptomatic therapy available. Prognosis is poor, despite many clinical trials and studies.

TITLE: COEXISTENCE OF MULTIPLE MYELOMA AND OTHER LYMPHOPROLIFERATIVE DISEASES.

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Background: Numerous studies proved that secondary tumors constitute one of the serious, late complications after oncohematology treatment. Among reasons of tumor's coexistence underlined should be: immunity system disorders occurred during illness, common etiological factors, genetic liabilities and negative influence of past cytostatic treatment and/or radiotherapy.

Case report: 57 years old patient, after hysterectomy due to endometrial carcinoma, was admitted to the Department of Hematooncology with duocytopenia, normocytic anemia and splenomegaly. Thanks to immunofenotyping and bone marrow biopsy, in November of 2013 the patient was diagnosed with hairy-cell leukemia (HCL). She was treated with cladribine (cumulative dose 30mg). After termination of cytostatic treatment, progressive deterioration of renal function was diagnosed also the patient required indication of red cell concentrate and she declared pain in lumbosacral region and suffered with femoral neck fracture. Due to unclear cause of such clinical presentation hematological diagnostics has been extended. Performed tests showed normocytic anemia and leucopenia, increased level of calcium and kappa chains, increased number of plasma-cells in bone marrow examination and osteolytic changes in bones. Basing on these results the patient was diagnosed with multiple myeloma (MM) and received 6 cycles chemotherapy CTD (cyclophosphamide, thalidomide and dexamethasone) with very good partial response. In May 2015, the attempt of stem cells' mobilization was unsuccessful thus it was decided to observe the patient in Hematology Clinic.

Conclusions: Progress in treatment of oncological diseases as well as population's senescence influenced more frequent occurrence of secondary tumors developed from hematopoietic system. In case of other hematological tumor's like HCL or MM, the coexistence of the secondary tumor (as a result of cytostatic treatment or radiotherapy) was described only in the individual cases.

TITLE: DO WE REMEMBER ABOUT STILL'S DISEASE? CASE REPORT.

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SUPERVISOR: DorotaSuszek, MD, PhD

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Background: Still's disease is a multi-organ inflammatory disease of unknown etiology, progression and prognosis. Hectic fever, arthritis, rash, organomegaly, elevated level of ferritin and other inflammatory markers are predominant in the clinical picture of this disease. The diagnosis of Still's disease is most often made after other causes of fever are excluded, such as infection or cancer.

Case report: The patient, 24 years old, was first hospitalized at the Clinic of Rheumatology and Connective Tissue Diseases in Lublin in May 2016. The first symptoms of the disease occurred 2 months earlier: high fever, polyarthritis, sore throat, fine-spotted rash on the trunk and limbs, lymphadenopathy. Ambulatory use of antibiotics did not improve the condition of the patient. High levels of inflammatory markers, leucocytosis, elevated LDH, β2-microglobulins and ferritin, negative results of anti-nuclear antibody tests were found in laboratory studies. There were no significant deviations in imaging studies: chest X-ray, abdominal ultrasound, cardiac echocardiography. A lymph node was removed from the supraclavicular area due to suspicion of reactive lymphadenopathy. Infectious background of the fever was excluded. The average dose of glucocorticoids was administered, with improvement. In May 2016 - January 2017 no symptoms of the disease were observed. In February 2017 the patient again was admitted to the Clinic of Rheumatology due to high fever, rash, arthritis. Based on the clinical picture and the results of laboratory tests (leucocytosis with granulocytosis, high parameters of acute phase, ferritin), Still's disease was diagnosed. High doses of glucocorticoids, methotrexat and cyclosporin have been administered. Instant remission of symptoms was obtained.

Conclusions: Still's disease is one of the causes of fever. In the clinical picture it imitates infectious diseases, especially lymphoproliferative ones and those of viral etiology. Untreated leads to dangerous, sometimes fatal complications. In any case of fever of unknown etiology, it is worth to consider Still's disease as one of the possible causes.

TITLE: TRACE NEOPLASM: CASE REPORT OF THE CHILD WITH THE DOWNS SYNDROM AND AML.

FIRST AUTHOR: Monika Kozłowiec

CO-AUTHORS: Aleksandra Kołodyńska, Sebastian Sawonik

SUPERVISOR: Joanna Zawitkowska MD, PhD

AFFILIATION: Department of Pediatric Hematology, Oncology and Transplantology, Medical University of Lublin

Background: Patients with genitive defects are more likely to develop neoplasm. “Children with Down syndrome (DS) have increased risk for developing AML (DS-AMKL), and they usually experience severe therapy-related toxicities compared to non DS-AMKL”. The most sensitive test is morphology. “(…)methods more sensitive than morphology are still under evaluation”. Next step in diagnostic process should be the manual bone marrow (BM) biopsy (MBM), or powered bone marrow biopsy (PBM). “PBM produces longer BM core samples than MBM, the relative clinical utility of these two methods has not been established” In practice - first symptoms of leukemia (e.g. AML) should be differentiated from rheumatic diseases, hypoplasticanaemia, thrombocytopenia, lymphoblastoma, Hodgkin's disease, neuroblastoma, histiocytosis and infective diseases.

Case report: The child with acute myeloid leukaemia and Down’s syndrome is analyzed, based on interview and analysis of patients’ medical documentation in the Department of Pediatric Hematology, Oncology and Transplantology of the University Children Hospital in Lublin. 22-months old boy with Down’s syndrome, who was admitted to pediatric unit because of very severe vomiting. Thrombocytopenia (about 50 000/ul) was found in laboratory tests and there were petechiae in physical examination on the children face escalating after crying. This aroused surgeon’s anxiety and he turned the boy into haematological clinic after routine check up in surgical clinic. During 3 months blood tests were performing regularly, and they did not reveal any changes that would indicate clearly hematopoetic disease. Any other symptoms did not appear. After this time atypical cells occurred in peripheral blood. The decision about performing the biopsy was taken and it demonstrated presence of blast cells (16,8%). It did not give any basis to recognize malignancy. After one month the biopsy was planned and performed again which demonstrated that the amount of blast cells raised to 26%. Acute myeloid leukaemia was recognized and treatment was started.

Conclusions: Patients with Down’s syndrome need a special, multidisciplinary medical care. Because of the fact, that risk of many diseases raise with this syndrome, any alarming symptom cannot be ignored, and even slight departures from the norm in examination or laboratory tests need to be checked and controlled in the future.

TITLE: HORMONE AND METABOLIC DISORDERS IN A PATIENT AFTER CRANIOPHARYNGIOMA SURGERY: CASE REPORT.

First author: Joanna Knap

Co-authors: Monika Klimek, Marlena Kot, Weronika Sikora

Supervisor: Ewa Obel MD, PhD

Affiliation: Chair and Department of Endocrinology, Medical University of Lublin

Background: Craniopharyngioma is relatively benign (WHO grade I) and slow-growing neoplasm that typically arise in the sellar and parasellar region. A first peak incidence of craniopharyngioma appears to occur between the ages of 10-14 years. Clinical presentation is variable on account of the variable location and size of the tumor and it is mainly due to the compression of the tumor mass into neighboring structures - the pituitary gland and the optic chiasm. Craniopharyngioma are often the cause of multiple pituitary hormone deficiency and obesity, which can be the first symptom of the disease. In addition, the symptoms may include headaches, increased intracranial pressure, visual symptoms, behavioral change. Treatment of choice isresection of the tumor.

Case report: We present a case report of 35-year-old patient after craniopharyngioma surgeries (in the age of 15 and 20) with secondary hypopituitarism. The patient is treated with substitution therapy for adrenal insufficiency, hypothyroidism and diabetes insipidus. Furthermore he was receiving growth hormone due to postoperative somatopause and testosterone and Biogonadyl substitution for hypogonadism. After craniopharyngioma surgery the pathological obesity associated with hypothalamic damage developed in this patient. This has led to the development of type 2 diabetes and metabolic syndrome.

Conclusions: Pathological obesity and hormonal disorders in patients after craniopharyngioma surgery are a significant health problem and they reduce the quality of patients' lives. Patients usually develop type 2 diabetes and metabolic syndrome, so they require constant endocrine control, taking substitution drugs, healthy eating and systematic physical activity.

CASE REPORT III

Title: RADIATION THERAPY AS THE CAUSE OF DIABETES TYPE 2 AND KIDNEY TUMOR.

First author: Joanna Ruszczyk

Co-authors: Anna Kułak, Maciej Kamiński, Monika Długoń

Supervisor: Iwona Baranowicz-Gąszczyk MD PhD

Affiliation: Chair and Department of Nephrology, Medical University of Lublin

Background: Risk of diabetes type 2 in patients who underwent radiation therapy is approximately 2,7 times as high as that of someone without that risk factor. Moreover, patients who underwent radiation therapy under 5 years old are approximately 2,4 times more exposed to the occurrence of type 2 diabetes in future.

Case report: At the age of one, the patient was diagnosed with a tumor in the abdomen. At this time, both surgical treatment and radiation therapy were performed. At the age of 25, the patient was diagnosed with type 2 diabetes, despite the lack of any risk factors of this disease. Seven years later, the patient was diagnosed with a gastrointestinal tract obstruction caused by adhesions with a simultaneous suspicion of a tumor in the right kidney. At the age of 41, the presence of a tumor in the right kidney was confirmed and cirrhosis of the left kidney was revealed. Two years later, the right nephrectomy was performed. The histopathological report revealed a clear cell carcinoma. On the third day after the surgery, renal replacement therapy was commenced. Currently, under regular haemodialysis, the patient is waiting for a transplant qualification.

Conclusions: Based on the analysis it was concluded that the patient's conditions may derive as the result of the radiation therapy and surgical treatment in the childhood. It is very difficult to pinpoint the actual impact of the therapy on the development of the mentioned pathologies.

Title: CONTRAST ENHANCED ULTRASOUND IMAGE OF PRIMARY SPLENIC LYMPHOMA: A CASE REPORT.

First author: Karol Krawiec

Co-authors: Izabela Dąbrowska, Sebastian Uhlig,

Supervisor: assoc. prof. Elżbieta Czekajska-Chehab MD, PhD

Affiliation: I Department of Medical Radiology, Medical University of Lublin

Background: Primary Splenic Lymphoma (PSL) is extremely rare neoplasm of the spleen comprising approximately 1% of all lymphomas. Clinical symptoms of PSL are non-specific and include low-grade fever, night sweats and symptoms related to splenomegaly e.g. pain in the left upper quadrant of the abdomen. PSL is usually manifested with the presence of large focal lesions in the spleen, which are detected by ultrasound B-mode image (USG) and subsequently precisely assessed by computed tomography (CT) or magnetic resonance imaging (MRI). To date, there has been described solely several cases of PSL diagnosed by contrast-enhanced ultrasonography (CEUS).

Case report: A 52-year-old man was admitted to the hospital because of left upper quadrant abdominal pain, chronic fatigue and general malaise for a month. Medical history, physical examination and laboratory results revealed no abnormalities. Ultrasound examination of the abdomen showed splenomegaly and two focal splenic lesions of uncertain nature. CT and MRI imaging confirmed the presence of tumors in the spleen with appearance highly suggestive of malignancy. Complementary to CT and MRI imaging, CEUS was used to determine the nature of splenic lesions. CEUS revealed typical features of malignant nodules in the spleen. Patient was qualified to splenectomy and further treatment.

Conclusions: CEUS is a complementary method to CT and MRI imaging which allowed to determine the nature of focal splenic lesions and to implement the targeted therapy.

Title: PATIENT WITH NON SMALL CELL LUNG CANCER AND SMALL CELL CANCER METASTASES IN LYMP NODES.

First author: Paulina Stefaniuk

Co-authors: Natalia Kwaśniak, Anna Szewczyk, Mateusz Tyniec

Supervisor: Anna Brzozowska MD, PhD

Affiliation: Departament of Oncology, Medical University of Lublin

Background: Lung cancer is the most common cause of cancer death in Poland. It is necessary to determine the histological structure of the tumor in order to choose the optimal method of treatment and establish the prognosis. Clinicians distinguish two types of lung cancers: small cell lung cancers (SCLC) and non-small cell cancers (NSCLC), including squamous cell carcinoma, adenocarcinoma and large cell carcinoma. It is estimated that 85% of lung cancers are NSCLC. Lobectomy or pneumonectomy and regional lymph node dissection are the methods of choice in Stage I, II and sometimes in Stage IIIA of NSCLC. Radiotherapy and chemotherapy are used, as well as targeted therapy. In small cell lung cancer, the treatment regimen is different and includes chemotherapy primarily. Both limited and disseminated SCLC are not treated surgically.

Case report: In this paper we present a case of 68-year-old patient with lung cancer located in the upper lobe of the left lung. Patients was diagnosed with non-small cell lung carcinoma, consisting mostly of squamous cells. The patient was treated with the neoadjuvant chemotherapy. In July 2016 the left upper lobectomy was performed. In October 2016, the CT scan showed the progression of size of the subclavial lymph nodes. Small cell carcinoma metastases were identified in the histopathological examination of the lymph nodes.

Conclusions: The pathogenesis of NSCLC and SCLC is generally considered to be diametrically different , but some argue that NSCLC and SCLC cells may share the common cells of origin. The co-occurrence of NSCLC and SCLC may be the evidence confirming this hypothesis.

Title: RAPIDLY PROGRESSIVE SYSTEMIC SCLEROSIS IN 57 YEARS OLD MALE WITH COLITIS ULCEROSA CASE REPORT.

First author: Justyna Kwolczak

Co-authors: Diana Mazur, Małgorzata Michalska, Robert Ściślak, Agnieszka Wójtowicz

Supervisor: Dorota Suszek MD

Affiliation: Chair and Department of Rheumatology and Connective Tissue Disease, Medical University of Lublin

Background: Systemic sclerosis is a connective tissue autoimmune disease of unknown etiology. It is characterized by sclerosis of the skin, but may involve different systems: gastrointestinal, respiratory, musculoskeletal, cardiac or renal. Symptoms of systemic sclerosis may be a mask of various cancers. We report a case of 57 years old men with colitis ulcerosa presenting with features of cutaneous sclerosis, sclerodactyly, esophageal dysmotility and Raynaud's phenomenon.

Case report: A 57 year old male with colitis ulcerosa (diagnosed since 2005) presented with Raynaud's syndrome lasting for 1 year and myalgia, local muscle weakness, difficulty with swallowing and effort dyspnea lasting for 3 months. Additionally he reported skin sclerosis of hands, forearms, thorax, abdomen and face. On admission, physical examination revealed a distinct facial teleangiectasias, Raynaud's phenomenon, sclerodactyly and diffused areas skin sclerosis with dark discolorations on the limbs and chest. In laboratory tests antinuclear antibodies in titer of 1:2560 in speckled staining pattern and increased values of inflammatory markers and muscle enzymes were found. Qualitative test panel for systemic sclerosis associated antibodies was negative. Nailfold capillaroscopy showed capillary pattern characteristic for systemic sclerosis. Gastroscopy showed no abnormalities. High resolution computed tomography of the thorax revealed no pulmonary fibrosis. Due to patients history of colitis ulcerosa additional tests were performed (fecal occult blood test, tumor markers and computed tomography of the abdominal cavity), showing no abnormalities. Based on all clinical findings systemic sclerosis was diagnosed. Because of rapid progression, muscle and extensive skin involvement therapy with cyclophosphamide was started.

Conclusions: Differentiating between the systemic sclerosis and scleroderma-like paraneoplastic syndrome often causes a lot of difficulties. Although our patient fulfill ACR/EULAR diagnostic criteria of systemic sclerosis, given diagnosed colitis ulcerosa (and associated with it increased risk of colorectal cancer), patients old age and the lack of antibodies characteristic for scleroderma in presented case clinical vigilance is advised. Patient require colonoscopy and further active surveillance – presented symptoms may also result from scleroderma-like syndrome.

Title: BREAST CANCER METASTASIS IN THE PITUITARY GLAND AS A CAUSE OF ENDOCRINE COMPLICATIONS. CASE REPORT.

First author: Piotr Nalewaj

Co-authors: Marlena Kot, Weronika Sikora, Karolina Rożenek, Zuzanna Toruń

Supervisor: Ewa Obel MD, PhD

Affiliation: Chair and Department of Endocrinology, Medical University of Lublin

Background: Breast cancer is the most common cancer among women worldwide. Metastasis are usually localized in the lymph nodes, skin, and liver. The presence of metastases in the pituitary gland, especially to infandibulum is rare. In that case, most of the patients have a plurality of clinical and radiological symptoms like diabetes insipidus, visual field defects, headache or ophthalmoplegia .

Case report: A 43 year old women was diagnosed with carcinoma mammae. Patient had mastectomy and chemotherapy in 2000. In MRI metastases in the pituitary stalk were found. Due to polydipsia (she was drinking even 14l of water per day) and polyuria diabetes insipidus and diabetes mellitus type 2 was recognized. She was treated with desmopressinum and metformini. Because of high glucose levels insulin has been included. In 2015, the patient was admitted to the hospital due to thickening of the pituitary stalk and appraisal of the secretory function of the pituitary gland. Both, adrenocorticotropic and thyreotropic axis were in a good function. After treatment, MRI showed regression of lesions in the pituitary gland.

Conclusions: As is clear from the literature, the most common tumors that metastasizes to the pituitary gland are breast and lung cancer. The incidence of metastases to the pituitary gland of extracranial malignant tumors is 4.2% . The lesions is the infundibulum appears typically as irregular thickening and homogeneous enhancement. It happens that the symptoms which are due to presence of metastases appear first, even before the diagnosis of cancer.

Title: DIABETES INSIPIDUS AND PITUITARY MULTIHORMONE DEFICIENCY AS THE FREQUENT COMPLICATIONS AFTER CRANIOPHARYNGIOMA RESECTION.

First author: Piotr Nalewaj

Co-authors: Weronika Sikora, Marlena Kot, Zuzanna Toruń, Katarzyna Mendyk

Supervisor: Ewa Obel MD, PhD

Affiliation: Chair and Department of Endocrinology, Medical University of Lublin

Background: Craniopharyngioma is slow-growing, benign tumor arised from remnants of Rathke's pouch along a line from the nasopharynx to the diencephalon. It can be solid, cystic or full of debris, with calcifications or bone formations. Mainly, it provokes compression of the optics chiasm, increase of the intracranial pressure or disrupted function of pituitary gland. First choice treatment is tumor's resection in order to decompress the optic chiasm, optic nerves and hypothalamus.

Case report: Currently 55-year-old patient, in 1999 was diagnosed due to visual disturbance (bitemporal hemianopsia)- the reason occurred to be craniopharyngioma. The decision was right sided craniotomy with gross total resection of the tumor. In postoperative period patient complained to loss of axillary, pubic and facial hair, impotence and excessive fatigue. During diagnostic procedure the level of cortisol in plasma, 24 hour urine collection, level of TSH and FT4 as well as the level of FSH, LH and testosterone showed hormone imbalances. Patient was diagnosed with hypoactivity of adrenocorticotropic, thyrotrophic and gonadotrophic axis. Also neurogenic diabetes insipidus was verified. Since then, patient got a substitution of hydrocortisone, levothyroxine, testosterone and desmopressin with good clinical effect. Additionally, patient suffers from obesity with BMI= 30. Actual MRI shows no craniopharyngioma's recurrence or remnants.

Conclusions: Choice of treatment method in craniopharyngioma depends on localization and character of the tumor. Unless there is no contraindication, the first choice treatment is surgical procedure with gross total or subtotal tumor's resection. Most frequent complications after resection is diabetes insipidus and pituitary multihormone deficiency. Nevertheless proper substitutional therapy provides high quality of life after tumor's resection.

Title: VISION DISORDERS AS A FIRST MANIFESTATION OF CRANIOPHARYNGIOMA SUPRASELLAR AREA. CASE REPORT.

First author: Zuzanna Toruń

Co-authors: Marlena Kot, Weronika Sikora, Piotr Nalewaj, Monika Klimek

Supervisor: Ewa Obel MD, PhD

Affiliation: Chair and Department of Endocrinology, Medical University of Lublin

Background: Craniopharyngioma is the one of most common hypothalamic neoplasms. There are 2 peaks of illness: first between 5 and 15 years old and second one between 50 and 70 years old. These tumors are benign and slow growing. More than 80% of craniopharyngiomas are located in the suprasellar area. The mass of the tumor pressing on neighbouring anatomical structures causes visual disturbances and hypopituitarism. There may also be signs of increased intracranial pressure, such as vomiting and headaches. MRI is a method of choice for the diagnosis of pituitary lesions, which allows for a precise evaluation of tumor size and location. Treatment of choice in the case of symptomatic craniopharyngiomas is tumor resection. There is a risk of endocrine deficits after surgery under the form of multihormonal pituitary hypopituitarism and diabetes insipidus, which require constant substitution therapy.

Case report: A 56-year-old patient after resection of tumor of chiasma opticum was admitted to the Endocrinology Clinic for planned postoperative hormone evaluation. The first change was shown in the MRI of the head in 2015 performed in case of bitemporal hemianopsia and increased dizziness and headaches. The study presented a big nonhomogenic tumor 32x22x14 mm in the suprasellar region, probably a craniopharyngioma. The patient before the planned surgery had a diagnosis of hypothyroidism in the hypothalamic-pituitary system, which showed hypofunction in the area of adrenocorticotropic, thyreotropic and gonadotropic axis. The substitution therapy was started: hydrocortisone and next L-thyroxine was added. Because of the central diabetes insipidus symptoms, despopressin was prescribed. Due to the size of the tumor and its localization, in March 2016 the patient was undergoing frontal craniotomy with noncomplete removal of tumor, in the postoperation period there was no improvement of visual impairment. In April 2016, the patient was readmitted to the Department of Endocrinology, where the multihormonal hypopituitarism and diabetes insipidus were confirmed. Substitutive treatment was continued, and because of the signs of weakness and loss of libido, testosterone substitution therapy was started.

Conclusions: Craniopharyngioma is a rare proliferative process that can lead to multihormonal hypopituitarism. The treatment of choice is neurosurgical procedure. Hormonal deficiencies and visual disturbances persist and even aggravate after surgical treatment, requiring permanent substitution treatment.

Title: WINDSHIELD WASHER FLUID AS AN EASILY ACCESSIBLE SOURCE OF POISON FOR POTENTIAL SUICIDES.

First author: Agnieszka Radzka

Co-authors: Klaudia Brożyna, Krystian Ciechański, Jędrzej Tkaczyk

Supervisor: Michał Tchórz MD

Affiliation: Department of Toxicology and Cardiology, Medical University of Lublin

Background: Methanol is very dangerous and can kill human organism. The minimum lethal dose is only 30 ml. Usually methanol poisoning occurs in people addicted to alcohol consumption by "illegal alcohol" or intentional consumption of washer fluid in the course of addiction. However, the easy availability of washer fluid makes that precisely this poison is used to commit suicide. Due to the large number of methanol poisonings on 25th of September 2013 in Poland was introduced new regulation with restrictions about marketing of substances and mixtures dangerous or hazardous, which resulted in a threefold decrease in the number of poisonings, but however they still occur.

Case report: 57-year-old patient with interview of alcohol abuse was admitted to Emergency Department in July 2015. In the interview patient told that he was drinking alcohol during 3 weeks constantly and two days before he came to the hospital he has drunk 500 ml of methanol to finish himself. From that moment he was vomiting and he was feeling badly. In the night he has drunk about 100 ml of herbicide Lumax in the same order. All the time he was consuming ethanol. During admission to the Department of Toxicology patient was in serious condition, he was conscious, sleepy with difficult verbal contact and nausea. He was efficient circulatory and respiratory. At the moment of the admission level of methanol in blood was up to 205 mg/dl, ethanol– 0,0mg/dl, cholinesterase- 0,0 mg/dl, lactates- 5,0 mg/dl, pH- 7,39 mg/dl. Few hours after admission to the department the patient's condition deteriorated, there were features of pulmonary edema with hypertension 240/140 mmHg, pneumonia atrial fibrillation with ventricular action of 200/min. Hemodialysis (CVVHDF), which lasted a total of 29.5 hours and pharmacological treatment obtained an improvement of the general condition, lowering the concentration of methanol to the level of 8 mg/dl and normalization of renal function. During hospitalization, the patient was evaluated psychiatrically. The patient in good general condition after 11 days of hospitalization was discharged home.

Conclusions: That case of patient shows that methanol is really dangerous poison, potentially lethal and easily accessible as a poison for potential suicide.

Title: CATECHOLAMINE-SECRETING PARAGANGLIOMAS AS THE ETIOLOGICAL FACTOR FOR SECONDARY HYPERTENSION. CASE STUDY.

First author: Klaudia Brożyna

Co-authors: Agnieszka Radzka, Karolina Rożenek, Zuzanna Toruń, Michał Góra

Supervisor: Ewa Obel MD, PhD

Affiliation: Chair and Department of Endocrinology, Medical University of Lublin

Background: Paragangliomas are rare neuroendocrine neoplasms with histology closely related to pheochromocytomas thus are also known as extra-adrenal pheochromocytomas. They originate from cells derived from the embryonic neural crest and have the capacity to secrete catecholamines which can cause clinical symptoms of the tumour in the form of hypertension, as is the case with presented patient. 0.1% to 1% of all hypertension cases are estimated to involve pheochromocytoma or paragangliomas. The peak incidence in sporadic cases occurs between third and fifth decade of life, with 43,9 years being an average age at diagnosis. The onset is accelerated in hereditary cases (24,9 years). However, despite typical symptoms, they are not always readily recognized, in some cases they are revealed only on autopsy. Parangliomas can localize in different locations and often constitute a challenge for complete surgical resection.

Case report: 72 year old female patient with a 5-year history of hypertension, right adrenal tumour and paraaortic lesion was admitted to the Department of Endocrinology for differential diagnosis in view of the fact that extra-adrenal pheochromocytoma was suspected. Prior to hospitalization CT scan had been performed and revealed focal lesions located under aortic bifurcation and in the right adrenal. Laboratory evaluation yielded elevated urine metoxycatecholamines concentrations. The MIBG scintigraphy was obtained and it demonstrated the elevated accumulation of agent limited exclusively to the paraaortic area. After further evaluation the patient was qualified for surgical treatment and the tumour (located under aortic biffurcation) was excised subtotally . Histologic examination confirmed the type of the lesion as pheochromocytoma. Unfortunatelly, after a few months the patient was readmitted to the Department of Endocrinology with persistent hypertension because of incomplete tumour resection. In laboratory tests the level of normetanephrine was 2 times above normal limit and metoxytyramine concentrations were elevated as well. During both hospital stays the differential diagnosis of secondary hypertension did not reveal any abnormalities concerning adrenocortical axis or RAA system.

Conclusions: The presented case report shows an example of non-radical operation resulting in the recurrence of the tumor. It suggests that patients with diagnosed paragangliomas should be operated on in reference centers which specialize in this type of surgeries.

Title: BRUGADA SYNDROME - A CASE REPORT OF A 44-YEAR-OLD MAN.

First author: Maciej Smoła

Co-authors: Paulina Rabiej, Mateusz Puchala, Agnieszka Wdowiak, Joanna Wójtowicz

Supervisor: Michał Trojnar MD, PhD

Affiliation: Chair and Department of Cardiology, Medical University of Lublin

Background: Brugada Syndrome is a rare, genetically determined, autosomal dominant disease without structural heart anomalies. It's related to SCN5A mutation in 15-20% cases. It is eight times more frequent in men and reveals between 20 and 40 years of age. Idiopathic variations in ECG and frequent fainting are factors which exacerbate the prognosis. It is characterized by paroxysmal rhythm disturbances, which can retreat spontaneously or lead to ventricular fibrillation and sudden cardiac death. The aim of treatment is the implantation of implantable cardioverter defibrillator (ICD).

Case report: We are describing a case of a 44-years old man who came to SPSK4 Emergency Room in Lublin due to the burning chest pain and heart flutter lasting for 3 weeks. The patient was transferred to the Department of Cardiology for appropriate treatment. ECG revealed typical Brugada syndrome variations. Coronarography disqualified relevant abnormalities in epicardial arteries. The patient underwent a 24 hour Holter ECG monitoring to evaluate if there were any rhythm disturbances. Echocardiography did not reveal any significant defects. After few days the ICD was engrafted. The patient in a good overall condition was discharged home.

Conclusions: The only effective method of sudden cardiac death prevention in Brugada syndrome is the ICD implantation. To diagnose the disease, it is essential to reveal type 1 ECG variations, which can be spontaneous or caused by type 1 antiarrhytmic drug. We can see it as a ST segment elevation more than 0,2mV in at least one precordial lead (V1 or V2) which converts in a negative T fold. In case of type 2 or 3 ECG variations, we can diagnose the disease when these type convert to type 1 variations after administer type 1 antiarrhytmic drug. Clinical picture of Brugada syndrome may resemble other ion canal rare diseases such as catecholaminergic polymorphic ventricular tachycardia or an early depolarisation syndromes so it is important to keep the patient under observation and correctly interpret examination results.

Title: THE TAKO-TSUBO SYNDROME - A CASE REPORT OF A 62-YEAR-OLD WOMAN WITH TYPICAL CHEST PAIN.

First author: Mateusz Puchala

Co-authors: Paulina Rabiej, Maciej Smoła, Aneta Kosierb, Agnieszka Staciwa

Supervisor: Michał Trojnar MD, PhD

Affiliation: Chair and Department of Cardiology, Medical University of Lublin

Background: Cardiomyopathies are a group of diseases with a variety of aetiology which lead to myocardial dysfunction. They can be divided into genetically determined and non-familial cardiomyopathies. We can distinguish dilated, restrictive, hypertrophic, arrhythmogenic right ventricular and unclassified cardiomyopathy among them. The tako-tsubo syndrome belongs to a group of unclassified acquired cardiomyopathies.

It is common in women in their 7th decade of life with stress-induced chest pain. Frequent changes in ECG imaging include persistent ST elevation in V3-V6 leads and less frequent in I and aVL. Coronary angiography is characterized by the absence of atherosclerotic lesions in the epicardial arteries. Dysfunction of left ventricle contraction appears. The only treatment is pharmacotherapy.

Case report: A 62-year-old woman was admitted to SPSK4 Emergency Room in Lublin with typical chest pain that occurred as a result of stress caused by the theft of her purse. The patient was moved to the Cardiology Clinic for extended diagnosis and treatment. In laboratory tests, troponin level was 3.913 ng/ml with a rapid growth rate of 5.434 ng/ml. Heart rate action 80 per minute. ECG without significant ST segment elevation in V3-V6 leads. Coronary angiography excluded significant changes in coronary vessels. Disturbed contractility of the left ventricle apical segments in the echocardiography. Cardiac ventriculography showed reduced left ventricle ejection fraction without mitral regurgitation. The patient was hospitalized at the Department of Cardiology for pharmacological treatment.

Conclusions: Tako-tsubo syndrome occurs the most often in women over age 60 and symptoms simulate heart attack. ECG changes resemble acute coronary syndrome mainly with persistent ST elevation or without ST elevation. There are deep T waves generally visible since the day 3, so they appear a moment later after the infarction itself. After a few days or weeks, left ventricle contraction improves. ECG changes can last up to a year. Patient's prognosis is good.

Title: PNEUMOCEPHALUS.

First author: Cezary Grochowski

Co-authors: Jakub Litak, Wojciech Czyżewski

Supervisor: Piotr Kamieniak MD, PhD

Affiliation: Chair and Department of Neurosurgery and Paediatric Neurosurgery, Medical University of Lublin

Background: Definition of Pneumocephalus (PNC) is described as a presence of air in the intracranial cavity. Trauma is the most common cause, other etiologies such as surgical procedures also occur. There are two main types of pneumocephalus: simple and tension types. Simple one is typically non- symptomatic and requires no treatment. Pneumocephalus (PNC) is an acute state when a valve mechanism allows air to enter the scull cavity but prevent it from escaping outside.

Case report: We present the case of 64 y.o. patient diagnosed with chronic subdural hematomas over both hemispheres. Treated with surgical single burr-holes on both sides. Control CT scan performed 24 hours later revealed PNC occurrence. Despite significant amount of air intracranially , patient develop any neurological deficits.

Conclusions: We reviewed the most relevant clinical features and proper management for pneumocephalus.

Title: STENT FRACTURE AFTER SUPERFICIAL FEMORAL ARTERY STENTING, CASE OF A 68 OLD MAN.

First author: Jędrzej Tkaczyk

Co-authors: Michał Terpiłowski

Supervisor: Jan Jakub Kęsik MD, PhD

Affiliation: Chair and Department of Vascular Surgery and Angiology, Medical University of Lublin

Background: Peripheral arterial occlusive disease (PAOD) comprises those entities which result in obstruction to blood flow in the arteries, exclusive of the coronary and intracranial vessels. The main cause of this condition is arteriosclerosis in which an artery wall thickens as a result of invasion and accumulation of white blood cells (foam cells) and proliferation of intimal-smooth-muscle cell creating an atheromatous (fibrofatty) plaque. PAOD most commonly affects arteries of legs. Angioplasty and stent implantation are often used in the treatment of PAOD. Although, these methods are considered as a low invasive and low risk, some factors may limit stent patency in the future. Stent fracture (SF) is one of it.

Case report: We report a case of a 68-year-old man, long-term smoker, with a history of a chronic limb ischemia and coronary artery disease, many vascular surgeries on legs, and a CABG. In 2010 patient underwent angioplasty of a superficial femoral artery (SFA) in both legs and endarterectomy of the right common femoral artery (CFA). After the procedure, patient's condition improved, and he was discharged home. In 2016 his condition declined, and he underwent endarterectomy of common, superficial and deep femoral artery. During the next week, patient needed many reoperations, because of a ALI including revision of a CFA, Thrombectomy of SFA, using a Fogharty catheter, distal femoropopliteal (fem - pop) bypass, using an artificial graft and angioplasty of a tibial arteries. After a month, he suffered from a graft infection. Infected graft was removed, and a patient underwent SFA stenting, and tibial arteries angioplasty. The stent deployed in the SFA was nitinol, self-expanding, 7mm in diameter and 20 mm long. Finally he was discharged home in a good state. After a year, he was admitted to a clinic because of a ALI. During a current hospitalization, angiography showed a stent fracture, with a fragment displacement to a left external iliac artery. He underwent Catheter – Directed Thrombolysis, and is currently still hospitalized in a clinic.

Conclusions: The cumulative incidence of femoropopliteal stent fracture varies from 2 to 65% in several studies. Mild stent fractures rarely lead to complications, however, multiple, migrated severe SF are associated with restenosis or re-occlusion at the stented site. The superficial anatomic course of the SFA is subject to external compression or torsion. SF may be caused by mechanical force exerted by the surrounding thigh muscle. Nitinol stents have great biocompatibility, elasticity and shape-memory properties, however their super-elasticity limits the stiffness of the stented vessel creating a hinge point predisposing to stent fracture. Morover stent fracture incidence increases with stent length, with the fracture rate being significantly lower in segments less than 8 cm.

Title: SUBMUCOSAL FIBROIDS OR ENDOMETRIAL POLYPS? DIFFERENTIATION OF INTRAUTERINE LESSIONS WITH USE OF ULTRASOUND ELASTOGRAPHY.

First author: Andrzej Woźniak

Co-authors: Filip Szkodziak

Supervisor: Piotr Czuczwar MD, PhD

Affiliation: III Chair and Department of Gynaecology, Medical University of Lublin

Background: Submucosal fibroids and endometrial polyps are intrauterine lesions, which can be truly hard to distinguish. Both of them are common cause of abnormal uterine bleeding (AUB) and in both cases their occurrence increase during reproductive years up to menopause. However submucosal fibroids originate from dense muscle tissue, where endometrial polyps come from soft endometrial tissue. In the presence of this fact, ultrasound elastography seems to be a perfect tool to differentiate between them.

Case report: A 37-years-old woman, pregnant and delivered 2 times, without any health problems, reported heavy menstrual periods and mid-cycle spotting for the last 9 months. During the gynecological examination no pathology was detected. Transvaginal ultrasound (Samsung SW80) showed a hyperechogenic intracavitary uterine lesion (4 mm × 6 mm). Decision about prolong examination was made and patient undergo ultrasound elastography, during which patient was breathing normally, and the operator did not apply any pressure to the cervix. Elasticity of the suspicious area was assessed. The stiffness of the lesion was softer than the myometrium and similar to the endometrium thus initial diagnosis was endometrial polyp. During hysteroscopy the endometrial polyp was found and removed. Finally the diagnosis was confirmed by the pathological examination.

Conclusions: First step of diagnostic in premenopausal patient with abnormal uterine bleeding frequently is transvaginal ultrasound. As showed above the elastography give us possibility to assess the stiffness of intrauterine lesions, which may be helpful in differentiating between submucosal fibroids and endometrial polyps.

Title: FOETAL AND NEONATAL ALLOIMMUNE THROMBOCYTOPENIA AS A RARE EXAMPLE OF THROMBOCYTOPENIA IN A NEWBORN.

First author: Maciej Kamiński

Co-authors: Monika Długoń, Paulina Grzesik, Dominika Fic

Supervisor: Żaneta Kimber-Trojnar MD, PhD

Affiliation: Chair and Department of Obstetrics and Perinatology, Medical University of Lublin

Background: Foetal and neonatal alloimmune thrombocytopenia (FNAIT) is caused by antigenic incompatibility of platelets between a pregnant woman and her child, resulting in a pregnant woman producing antibodies against specific antigens (HPA- Human Platelet Antigens) located on fetal platelets inherited from his father. In 80-85% of cases HPA-1a is the antigen responsible for immunization of the pregnant woman. It is estimated that FNAIT in Poland occurs once in every 2,000 pregnancies.

Case report: 29-year-old patient in the 40th week of the second pregnancy reported to the Department of Obstetrics and Perinatology due to the rupture of membranes. In the interview – one miscarriage in the fifth week of pregnancy. A male infant was born vaginally in good general condition. On the infant's skin were found numerous petechiae and bruising and trace of yellowish skin colour. Due to severe thrombocytopenia and brusies on the skin 1 unit of leucocyte-reduced, irradiated, reconstituted platelet concentrate (LRIRPC) of blood group O RhD(+), suspended in plasma type AB was ordered for transfusion support. Human immunoglobulin (Kiovig preparation) was transfused. Tests for TORCH and the count of antiplatelet antibodies in maternal blood were ordered. Control blood count of the newborn four hours after the transfusion was 5.0x 03/µL, and no expected post-transfusion platelet growth was observed. Another transfusion of LRIRPC and human immunoglobulin was ordered. Again, no therapeutic effect was obtained. The newborn's HPA antigens were identified as: 1a/b; 2a/a; 3a/a; 5a/a; 4a/a; 15b/b, platelet antibodies derived from the mother were found in his serum. After transfusion of 1 unit of HPA-1b/b LRIRPC at 37 hours of the newborn's life the platelet count increased to 67.0x103/µL. The treatment with dexamethasone and human immunoglobulin was continued and led to stabilization of the platelet. The infant was transferred to the Department of Neonatal Pathology and was discharged in good condition in the 33rd day of life.

Conclusions: FNAIT diagnostics is usually carried out only after the birth and as a result of clinical manifestations of thrombocytopenia in the newborn. It would be very useful to conduct diagnostics of FNAIT by all pregnant women and to nominate HPA-1a negative women, whose offspring could be at risk of severe immunological thrombocytopenia.

Title: ENDOSTAPLERS, AN OPTION FOR ENDOLEAKS TREATMENT.

First author: Aleksandra Zimecka

Co-authors: Izabela Dąbrowska, Karol Krawiec

Supervisor: assoc. prof. Andrzej Wolski MD, PhD

Affiliation: Department of Interventional Radiology and Neuroradiology

Background: An endoleak is a common complication of EVAR and is found in 30-40% of patients intraoperatively and in 20-40% during follow-up. It has been referred to as the "Achilles heel" of the endovascular approach to aneurysm treatment. Some endoleaks seem to be unavoidable due to the presence of pre-existing patent branch vessels arising from the aneurysm sac, whilst others occur as a result of poor patient/graft selection. Endoleaks are often asymptomatic, however as flow within the aneurysm sac is at systemic or near- systemic pressure, if untreated, the aneurysm may expand and is at risk of rupture. Endoleak is seen on CT angiography (most common modality for follow up and investigation of potential endoleaks), MR angiography and DSA as contrast opacification of the aneurysm sac outside the graft.

Case report: Patient (male, 81 years old) had a primary uncomplicated EVAR with a Zenith (Cook) endograft in 2006 to treat an aortic aneurysm. At 10-year follow-up, progressive distal migration occurred, including a type IA endoleak. At secondary intervention, the endostapling system was advanced via a left femoral open access. Endostaples were deployed into the Zenith endograft, whereafter a proximal Gore cuff (32x45 mm) was implanted properly. Cuff and primary device were fixated with the use of endostaples. The procedure was uncomplicated. The 2-month postprocedural Doppler ultrasound showed neither endoleaks, nor further complications.

Conclusions: Secondary interventions to treat distal migration and type IA endoleaks can be challenging. The Aptus uses a helical staple technology for independent endograft fixation, mimicking the hand suturing performed during open surgical repair. It can be used to repair endovascular grafts that have migrated or exhibit endoleaks, by strengthening the radial fixation and/or sealing to regain or maintain effective aortic aneurysm exclusion. It can also be used at the time of initial endograft implantation to enhance an endograft's inherent fixation and sealing mechanisms This case showed the feasibility of the use of the Aptus Endostapling system for its use in secondary interventions of distally migrated endografts.

INTERNAL MEDICINE

TITLE: **INFLUENCE OF ENERGY DRINKS ON HEMODYNAMIC PARAMETERS IN YOUNG HEALTHY ADULTS: RANDOMIZED DOUBLE BLIND PLACEBO CONTROLLED CROSS OVER STUDY.**

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CO-AUTHORS: Marek Stopa, Magdalena Niemczyk, Karolina Rutkowska, Agata Radko

SUPERVISOR: Agnieszka Olszanecka MD, PhD

AFFILIATION: Students' Scientific Group at the 1st Department of Cardiology, Interventional Electrocardiology and Arterial Hypertension, Jagiellonian University Medical College in Cracow

Introduction: An energy drink (ED) is a type of beverage containing stimulant drugs, caffeine, taurine, which is marketed as providing mental and physical stimulation. The popularity of product is increasing especially among teenagers and young adults. Some research suggest that its consumption may have negative effect on cardiovascular system.

Aim of study: Assessment of the influence of single dose of ED on blood pressure, heart rate, ECG, cardiac output and vascular compliance in healthy volunteers.

Material and methods: A randomized double-blind placebo controlled cross-over study was conducted on 18 healthy volunteers (7 female, 11 male, mean age 23,67±1,19). Subjects received: 500 ml of energy drink containing 160mg of caffeine, 2g of taurine and 50mg of guarana or 500ml of placebo. Participants drank beverages in random order during two different meetings. Drinks did not differ in taste, smell and color. In all participants before and after consumption of a drink, in the same sequence and time intervals following procedures were performed: peripheral and central systolic and diastolic blood pressure (SBP and DBP) measurement, ECG recording, echocardiography, and pulse wave velocity analysis.

Results: ED consumption was related with significant increase of SBP in 75 min of observation compared to placebo (ΔSBP for ED 5,7±10,2 mmHg vs -0,3±7,2 mmHg for P, p=0,03). ED caused also increase in central SBP (107,8±13,2 vs 115,6±12,1 mmHg p=0,0005), and central DBP (73,9±11,9 vs 78,1±10,2 mmHg p=0,02). However comparison between placebo and ED revealed no significant differences in these parameters. Tendency for increase of PWV in ED group was observed (ΔPWV for ED 0,6±0,7 m/s vs 0,2±0,6 m/s for P, p=0,10), and significant reduction of augmentation index was noted (ΔAI for ED -10,5±17,9% vs 7,55±17,7% for P, p=0,005). The ECG parameters (HR, PQ, QRS and QTc intervals, axis of P wave, QRS complex, T wave) did not reveal statistical differences between groups. There were no differences in echocardiographically determined cardiac output and LVEF.

Conclusions: Single dose ED consumption increases peripheral and central SBP. This effect is probably mediated by vascular wall properties and not by cardiac performance. Further studies on the influence of chronic ED consumption on central and peripheral hemodynamic parameters are needed.

TITLE: **ASSESSMENT OF DISEASE PATTERNS IN PATIENTS WITH ANKYLOSING SPONDYLITIS WITH THE FLARE ILLUSTRATION TOOL.**

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SUPERVISOR: prof. Eugeniusz Józef Kucharz MD, PhD

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Introduction: Ankylosing spondylitis (AS) is a chronic inflammatory arthritis affecting mostly the spine that can lead to long-lasting pain and disability. The disease course may have different patterns (profiles), from periods of remission to flares of the active disease. The Flare Illustration Tool consists of six different images depicting different disease patterns.

Aim of study: Description and assessment of disease patterns in patients suffering from AS.

Material and methods: A total of 90 patients (49 female, 41 male) were asked to fulfill the anonymous questionnaire composed of 3 parts, addressing details of the disease, Flare Illustration Tool and BASDAI (Bath Ankylosing Spondylitis Disease Activity Index).

Results: Out of 90 patients, 85 (94%) reported that they experience flares in the disease. The majority of patients admitted that a flare occurred once in 3 months (20) or once in a month (19). Most patients stated that flares lasted 7-14 days (26) and 1-3 days (22). Patients also described the disease with the Flare Illustration Tool. At the moment of diagnosis of AS, disease patterns with constant symptoms in between flares (B and D) occurred the most frequently (55). Pattern F (constant symptoms without flares) was also common (20). Patterns without symptoms in between flares (A and C) were less frequent (13). In the last 12 months dominating profile was pattern B(43). The disease pattern is not constant feature, 57% of the patients reported different disease pattern in last 12 months as compared to that at the time when the AS was diagnosed. Patterns D and F were associated with a significantly higher BASDAI score.

Conclusions: The majority of AS patients experience flares. There are two main types of disease pattern (B and D). Patterns with constant symptoms occur more often than other patterns. Disease pattern is not constant feature and changes in many of the patients. The most common change is shift of pattern D into pattern B.

TITLE: CENTRAL NERVOUS SYSTEM INVOLVEMENT BY CHRONIC LYMPHOCYTIC LEUKAEMIA.

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Introduction: Chronic lymphocytic leukaemia (CLL) is a disease that is characterised by a clonal proliferation and accumulation of mature B lymphocytes in peripheral blood, bone marrow and lymphoid tissues. Other location is very rare and is usually connected with the skin and central nervous system (CNS). Despite that fact, CLL belongs to the type of proliferation in which the central nervous system involvement (CNSi) is seldom considered, contrary to infective, immunological complications or transformation of Richter syndrome (RS).

Aim of study: The aim of study was to present a group of seven patients with CLL with CNS infiltration with an especially interesting cases of patients with prolymphocytic leukaemia, Richter's transformation and the original location of leukemic infiltration within the eye socket.

Material and methods: Based on a retrospective analysis we have conducted an assessment of the clinical, biological and radiological parameters (MRI, CT) of the patients with CLL and CNSi, in the period from February 2007 to March 2015. Five patients had lumbar puncture done with the collection of cerebrospinal fluid (CSF). The CSF tests included the cytological, biochemical, cytometric and microbiological evaluation. In three cases material for histopathological tests was also collected.

Results: Seven patients with CLL, who were diagnosed with CNSi were analysed. They were four men and 3 women in age between 43 and 76 years old. They were in the stadium 0-3 according to Rai et al. classification. The CNSi diagnosis was determined based on the flow cytometric analysis of the CSF in five patients and histopathological examination in three patients (in two patients, based on the autopsy). Three patients received intrathecal treatment, one had a neurosurgical procedure (total resection of the tumour) followed by radiotherapy. Three patients due to their general serious state did not receive the cytostatic treatment. All patients were radiologically diagnosed (MRI/CT) and they manifested divers neurological symptoms.

Conclusions: CNSi in the course of CLL is rare and usually unexpected, as a result the knowledge that we have on this issue is not sufficient. In each case of every patient with CLL with unexplained neurological disorders, CNSi should be considered in the course of the underlying disease and the basic diagnostic radiology and CSF examination (cytological, immunophenotyping, cytogenetics) should be performed, CNSi may occur at any stage of the disease, either as the first manifestation or after several years of treatment.

TITLE: **P21 AND P53 EXPRESSION MODIFIED BY GAMMA RADIATION IN ACUTE MYELOID LEUKEMIA.**

AUTHOR: Marta Podgórniak

CO-AUTHORS:

SUPERVISOR: Joanna Zaleska MSc, prof. Krzysztof Giannopoulos MD, PhD

AFFILIATION: Experimental Hematooncology Department, Medical University of Lublin

Introduction: Acute myeloid leukemia (AML) is a heterogeneous group of diseases characterized by the accumulation of functionally immature and morphologically changed blasts in the organism. The transformation leading to the formation of leukemic cells clone is caused by a variety of genetic and epigenetic modifications. A certain percentage of leukemic cells have abnormal expression of proteins responsible for apoptosis and DNA repair mechanisms, such as tumor protein p53. It is a transcription factor encoded by the TP53 gene, located on chromosome 17 (locus 17p13). Impaired expression of p53 in AML cells results in low expression of p21. This protein encoded by CDKN1A gene is directly involved in inhibiting of cell cycle. The activation of p53, and thus p21, occurs due to damaging factors such as ionizing radiation, hypoxia, or the presence of certain oncogenes.

Aim of study: The aim of the study was to evaluate the expression of p53 and p21 in patients with AML before and after γ radiation exposure and to assess the impact of ionizing radiation on the activation of DNA repair mechanisms in leukemic cells.

Material and methods: Mononuclear cells were isolated from bone marrow of AML patients at the moment of diagnosis. The cells were placed in RPMI 1640 medium (Biochrom) with 10% FBS and 1% antibiotic mixture (Sigma-Aldrich), counted and divided into two samples. One of them was irradiated with γ radiation (5 Gy), while the second was negative control (non-irradiated cells). After 24-h growth in 37ºC and 20% CO2, permeabilization was carried out with a reagent Cytofix / Cytoperm (BD Biosciences). Then, the cells were stained with the antibodies: anti-CD33, anti-CD13, anti-7AAD, anti-p21 and anti-p53 (BD Biosciences). After 20 minutes of incubation in 20ºC in darkness, the expression of p53 and p21 was assessed using flow cytometry FACSCanto II (BD Biosciences). The same protocol was conducted on cell lines OCI-AML3 and MDA-MB-231 that were positive control and HL-60, which was a negative control, due to the lack of expression of p53.

Results: The studies has shown a strong statistically significant correlation between expression of the protein p21 and 53 prior to irradiation ($p=0.03$, $r=0.85$). Moreover, the increased p53 expression after irradiation was observed in 3/7 patients, while in 2/7 it decreased. The median expression of p53 was 0,6% before and 0,8% after γ radiation. The decreased expression of p21 was observed in 5/7 of patients. The median expression of p21 was 3,4% before and 2,5% after radiation. There were no significant differences in the p53 and p21 expression according to the status of NPM1 gene mutation and the expression of protein isoform NPM1.R2.

Conclusions: The exposure for γ radiation modifies the p53 and p21 expression in AML cells. At least in AML-M5, exposure to γ-radiation up-regulates p21 and p53 expression.

TITLE: **CONCOMITANT DISEASES AND INCIDENCE OF COMPLICATIONS IN PATIENTS WITH TYPE 2 DIABETES**

AUTHOR: Marta Mazalon

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SUPERVISOR: Ewa Obel MD, PhD

AFFILIATION: Department of Endocrinology, Medical University of Lublin

Introduction: Type 2 diabetes (T2DM) is a metabolic disorder characterized by hyperglycemia due to progressive impairment in insulin secretion by the pancreas insulin resistance. T2DM formerly called non-insulin-dependent or adult-onset, remains a leading cause of cardiovascular disorders, blindness, end-stage renal failure, amputations, and hospitalizations. It is also associated with increased risk of cancer, serious psychiatric illness, cognitive decline, chronic liver disease, accelerated arthritis, and other disabling or deadly conditions.

Aim of study: The objective of the study was to evaluate the prevalence of concomitant disease and incidence of complications in patients with type 2 diabetes.

Material and methods: Study participants included 86 adults who are diagnosed with diabetes type 2 for at least one year. The research involved internet surveys of patients and statistical analysis of data. Survey consisted of 27 questions single or multiple choice.

Results: The most common complication occurring in our respondents was polyneuropathy (26.7%) The second most common complication was vision disorders (19.8%). More than 51% of the respondents said that diabetes significantly interferes with their daily lives. With diabetes, the most common coexisted diseases are: obesity (66%), coronary heart disease (24.4%) and hypertension (19.8%).

Conclusions: Diabetes mellitus is considered as globally rising health issue, because the number of people suffering from this chronic disease is still increasing (estimated in 2016 by the World Health Organization at 422 million patients), because of this, it is crucial to quickly identify the disease and apply an appropriate treatment in order to prevent the occurrence of complications.

TITLE: **AN IMPACT OF LIGHT TO MODERATE ALCOHOL CONSUMPTION ON THE RISK OF DIABETES MELLITUS DEVELOPMENT.**

AUTHOR: Justyna Skolarczyk

CO-AUTHORS: Joanna Pekar, Monika Tadla,

SUPERVISOR: Katarzyna Skórzyńska-Dziduszko MD, PhD

AFFILIATION: Human Physiology Department, Medical University of Lublin

Introduction: The Finnish Diabetes Risk Score (FINDRISC) assesses the 10-year type 2 diabetes risk in adults by identifying individuals with overweight or obesity, inadequate physical activity, poor nutrition, or a family or personal history of hyperglycemia.

Aim of study: The objective of the study was to analyze 1/ the incidence of light-to-moderate alcohol consumption (<15 grams/day) in randomly selected individuals screened with FINDRISC scale, and 2/ the effect of light-to-moderate alcohol consumption on body weight, waist circumference, the magnitude of arterial pressure, and the total FINDRISC scores.

Material and methods: The study was conducted in 2016 on 99 individuals – 51 women and 48 men. We determined FINDRISC score and measured blood pressure twice. The results were analyzed in STATISTICA 10 at $p < 0.05$. The alcohol abusers were excluded from the study.

Results: Seventeen individuals (17.17% of total 99 subjects; 6 females and 11 males) declared light-to-moderate alcohol use. Body mass index (BMI), waist circumference, systolic and diastolic arterial pressure values did not significantly differ between alcohol consumers and non- consumers. Surprisingly, alcohol consumers showed a tendency ($p = 0.17$) towards lower FINDRISC scores than non-consumers.

Conclusions: Light-to-moderate alcohol consumption seems to have no impact on both body weight and arterial pressure magnitude. The diabetes risk seems to be not influenced by light-to-moderate alcohol consumption; however the tendency towards lower FINDRISC scores in alcohol consumers should be confirmed in a study on the larger group of patients.

TITLE: **HAS FAMILY HISTORY OF DIABETES ANY IMPACT ON OFFSPRINGS BODY WEIGHT WAIST CIRCUMFERENCE AND ARTERIAL PRESSURE?**

AUTHOR: Justyna Skolarczyk

CO-AUTHORS: Joanna Pekar, Monika Tadla

SUPERVISOR: Katarzyna Skórzyńska-Dziduszko MD, PhD

AFFILIATION: Human Physiology Department, Medical University of Lublin

Introduction: The Finnish Diabetes Risk Score (FINDRISC) assesses the 10-year type 2 diabetes risk in adults by identifying individuals with overweight or obesity, inadequate physical activity, poor nutrition, or a family or personal history of hyperglycemia.

Aim of study: The objective of the study was to analyze the effect of family history of diabetes on body weight, waist circumference, the magnitude of arterial pressure, and the total FINDRISC score of randomly selected individuals.

Material and methods: The study was conducted in years 2015/2016 on 190 individuals – 96 women and 94 men. We determined FINDRISC score and measured blood pressure twice. The results were analyzed in STATISTICA 10 at $p < 0.05$.

Results: Thirty six subjects (18.95%) declared history of hyperglycemia in the closest family (parents, siblings, children) and 34 (17.89%) in other family members (grandparents, aunts, uncles, cousins). The highest FINDRISC scores ($p<0.001$) were observed in individuals with history of hyperglycemia in the closest family. The statistically significant difference ($p=0.002$) in the FINDRISC scores was also noticed between individuals with history of hyperglycemia in other family members and individuals with no history. Surprisingly, such differences were not observed for systolic or diastolic blood pressure, waist circumference, body weight, and body mass index (BMI) values.

Conclusions: Family history of diabetes, although indisputably increases the risk of diabetes in offspring, seems to have no direct impact on the offspring's body weight, waist circumference, and the magnitude of arterial pressure.

TITLE: **IMPACT OF SYSTOLIC BLOOD PRESSURE ON THE GENERAL CARDIOVASCULAR RISK: ANALYSIS BASED ON THE EUROPEAN SCORE RISK CHARTS.**

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SUPERVISOR: Michał Trojnar MD, PhD

AFFILIATION: Chair and Department of Cardiology, Medical University of Lublin

Introduction: Systolic blood pressure (SBP) is one of three classic modifiable cardiovascular risk factors used to estimate the risk of death from cardiovascular disease. High SBP leads to coronary artery disease, heart failure and chronic kidney disease due to atherosclerosis. The INTERHEART Survey (2004) shew impact of hypertension on increase the risk of cardiovascular disease. In the context of the SCORE Charts, one of the main aims of cardiovascular disease prevention is lower blood pressure < 140/90 mm Hg.

Aim of study: In our analysis we investigate the general impact of high systolic blood pressure (SBP ≥ 140 mm Hg) on the level of cardiovascular risk based on the European SCORE Risk Charts.

Material and methods: The following analysis based on the results of some parts of the prophylactic programme "Take your health to heart" carried out in population of Janowski district by the students of Scientific Association of Chair and Department of Cardiology of Medical University of Lublin in February 2016. The survey was composed of a questionnaire interview containing one-level and multi-level questions related to the health behaviors, blood pressure measurements using the auscultation method and anthropometric measurements. Statistical analysis was carried out by Statistica and Excel 2016.

Results: Among 1173 citizens of Janowski district, 573 people (48,8 %) were in low risk group and 141 (24,6 %) of them had medium SBP ≥ 140. Number of women was 76 (53,9 %). Among 402 (34,3 %) respondents with intermediate cardiovascular risk, 182 (45,3 %) people had high medium SBP. Number of women was 84 (46,2 %). Among 135 (11,5 %) respondents presenting high cardiovascular risk, 84 (62,2 %) of them had SBP ≥ 140. There were 39 women (46,4 %) in this group. Among 63 (5,4 %) citizens in very high risk group, 43 (68,3 %) people presented high SBP. Female population was 10 (23,3 %)..

Conclusions: Together with increase of cardiovascular risk level, impact of high SBP on the general risk was more significant. Majority of respondents belonged to the intermediate risk group. High medium SBP as a factor of low cardiovascular risk, most often concerned the female group. In remaining risk groups, percentage of men was larger, so high SBP can coexist with the other cardiovascular risk factors in male population.

TITLE: **RELATIONSHIP BETWEEN DIFFERENT TYPES OF POLYPS IN THE STOMACH AND HELICOBACTER PYLORI.**

AUTHOR: Jakub Wronecki

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SUPERVISOR: prof. Barbara Skrzydło-Radomańska MD, PhD

AFFILIATION: Chair and Department of Gastroenterology with Endoscopic Unit, Medical University of Lublin

Introduction: Polyps of stomach are uncommon occurence discovered during esophagogastroduodenoscopies. They constitute of diverse morphology group of lesions, difficult to classify during endoscopy. Meanwhile, Helicobacter pylori is a common Gram-negative bacteria mainly linked with gastric ulcers.

Aim of study: To compare endoscopy and pathomorphology findings of stomach polyps in own material and to determine their relationship with Helicobacter pylori occurence.

Material and methods: The results of 6124 esophagogastroduodenoscopies from year 2014 through 2016 from 5185 patients examined in Department of Gastroenterology from Medical University of Lublin were reviewed. 201 patients with stomach polyps were identified. Based on endoscopy findings the size, count and localisation of polyps was determined, as well as final endoscopy diagnosis.The endoscopy findings were correlated with histopatology assessment, which was available for 173 patients. Patients had H. pylori presence in biopsy specimen assesed, using Warthin-Starry staining.

Results: Average age was 62,64 (SD=14,86), min. 21; max 90. 143 (71,14%) of patients were female and 58 (28,86%) male. Majority of polyps (82; 40,8%) were localised in body, other loci included fundus (48; 23,88%), cardia (46; 22,89%) and antrum (44; 21,89). In 35 (17,41%) cases there were multiple polyps found. Majority of polyps (122, 60,7%) were small, up to 5mm, 29 (14,43) were described as between 6 and 9 mm and only 13 (6,47%) were assessed as 10mm and more. The endoscopic diagnosis of the type of polyp was stated in 36 cases. 35 of them were Elster polyps, one inflammatory polyp. The diagnosis was confirmed only in 14 patients (38.88%) with Elster polyps. Overall in histopatology specimens there were 60 (29,85%) cases with no distinct variation; 55 patients (27,36%) were diagnosed with Elster polyps; 41 (20,4%) were diagnosed with hyperplastic polyps; 6 (2,99%) were diagnosed with various forms of neoplasm. Out of 90 cases where H. pylori presence was assesed, 24 (11,94%) were tested positive. None of patients with Elster polyps and only 3 (7,32%) patients with hyperplastic polyps had H.pylori infection. Chi-squared test indicated that these findings were statistically significant (p=0,019).

Conclusions: Helicobacter pylori infection does not occur simultaneosly with Elster polyps, and it is rare in cases of hyperplastic polyps.

TITLE: **OBESITY IN OLDER ADULTS AS A CHALLENGE OF GERIATRIC CARE.**

AUTHOR: Joanna Knap

CO-AUTHORS: Monika Klimek, Weronika Sikora, Marlena Kot

SUPERVISOR: Michał Trojnar MD, PhD

AFFILIATION: Department of Cardiology, Medical University of Lublin

Introduction: Overweight contributes to a number of diseases, including cardiovascular diseases and cancers. It also causes physicial disability, leading to a decline in quality of life and increased premature death risk. Due to the aging of population, the problem of obesity among older adults is a relevant issue.

Aim of study: The purpose of the study is to determine frequency of isolated obesity and obesity co-existing with cardiovascular disease.

Material and methods: The questionnaire survey and measurements of body weight and height were carried out in a group of 120 people in the age of 55-58 from Janów Lubelski district.

Results: Most of the respondents (78.3%) in the age of 55-65 are overweight or obese. Overweight is more common among women (37.3%), while obesity is more common among men (49.1%). People with overweight (51.4%) or obesity (68.4%) are distinctly more often suffer from cardiovascular diseases than people with normal body weight (17.9%). 44.2% of respondents in the age of 55-65 are treated due to hypertension and most of them are overweight or obese.

Conclusions: Obesity is a significant problem in the elderly. Excessive weight increases the risk of cardiovascular disease and premature death. It's more difficult to choose the proper weight loss therapy among older adults with obesity and cardiovascular diseases. Moreover, return to normal body weight is not so easy in the older age compared to young people. Therefore it is necessary to prevent obesity among children and young adults.

TITLE: **THE ANALYSIS OF MORPHOTIC BLOOD PARAMETERS AS A PREDISPOSING FACTORS OF THE PULMONARY EMBOLISM**.

AUTHOR: Hubert Opaliński

CO-AUTHORS: Paweł Obierzyński, Piotr Piech, Gabriela Kuroska, Patryk Pieniążek

SUPERVISOR: assoc. prof. Grzegorz Staśkiewicz MD, PhD

AFFILIATION: Human Anatomy Department, Medical University of Lublin

Introduction: The pulmonary embolism (PE) is a disease in which pulmonary arteries or their branches are getting totally or partially clogged by the material that has traveled through the bloodstream. The diagnostics of pulmonary embolism, despite the more and more advanced laboratory and imaging methods, is still laborious and has many vices. This issue is important, especially in hospital wards which perform surgical procedures or which treat long-term immobilized patients. Variety of symptoms, insufficient availability of CT angiography and lack of specific biochemical marker makes the pulmonary embolism representing significant percentage of cause of deaths in these hospital units, despite the widely used antithrombotic prophylaxis.

Aim of study: Analysis of the basic laboratory test results from patients in whom the pulmonary embolism has been suspected during the hospitalization to find morphotic indicator which correlate with CT angiography results.

Material and methods: To the retrospective analysis included results of the laboratory tests and imaging studies from 92 patients in whom the CT angiography has been done due to suspicion of the pulmonary embolism. Each patient was immobilized because of surgical intervention which has been performed in Orthopedics and Traumatology Clinic SPSK4 in Lublin. The results of CT angiography have confirmed the suspicion of the pulmonary embolism in 35 patient (38%), the PE have been ruled out in 57 patient (62%). In both groups analyzed the results of laboratory tests which are routinely performed at Clinic: APTT, INR, MPV, PCT, PDW, HCT, MCV, MCH, MCHC, RBC, HGB, RDW, HDW.

Results: Statistical analysis revealed correlation between some of the parameters. One platelet parameter, three red blood cell parameters and correlation with INR (International Normalized Ratio) were statistically significant. Parameter discussion takes the results in order: Wilcoxon test, Mann-Whitney U test and p-value. For plateletcrit (PCT): 2245,5 ; 649,5 ; p=0,012. For red blood cell parameters - MCHC: 1290,5 ; 695,5 ; p=0,033 ; RDW: 2182,0 ; 586,0 ; p=0,002 ; HDW: 2144,0 ; 548,0 ; p=0,001. INR: 1821,0 ; 443,5 ; p<0,01. For the rest of the parameters, statistical analysis didn't reveal significant correlation.

Conclusions: Discovery of single or many parameters that could evidence about predisposition or recognition of pulmonary embolism would be extraordinary achievement simplifying making a quicker diagnosis and further implementing early appropriate treatment. Besides, if that parameter could be selected among tests usually selected by a doctor, the costs of a diagnostic process would have been much lower, time of hospitalization could have been shorter and finally number of complications and deaths caused by pulmonary embolism would have been reduced as well. Carried out study presented here and analysis of results indicates that there is a correlation between some of the commonly selected blood parameters and confirmation of pulmonary embolism in CT angiography scans. Possibly finding out next correlations is a matter of further trials and analyzes. That studies will be surely carried out.

TITLE: QUALITY OF LIFE IN PATIENTS WITH TYPE 1DIABETES.

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SUPERVISOR: Ewa Obel MD, PhD

AFFILIATION: Department of Endocrinology, Medical University of Lublin

Introduction: Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. The chronic hyperglycemia of diabetes is associated with long-term damage, dysfunction, and failure of various organs. Type 1 diabetes (T1DM) is also called insulin-dependent diabetes and accounts for only 10% of all types of diabetes. The disease usually begins between 10 and 14 years of life and applies mainly children and young people. Treatment involves substitution of insulin. Diabetes mellitus is consider as globally rising health issue, because the number of people suffering from this chronic disease is still increasing (estimated in 2016 by the World Health Organization at 422 million patients).

Aim of the study: The objective of the study was to evaluate the quality of life, check out the knowledge about disease and the preventing diabetes type 1 complications.

Materials and methods: Study participants included 347 people aged 10 – 67 years who are diagnosed with diabetes for at least one year. The research involved internet surveys of patients and statistical analysis of data, using the Statistica. Survey consisted of 29 questions single or multiple.

Results: About half of the patients (50.5%) reported that diabetes significantly reduces their quality of living. Even 72.1% of respondents said that their financial situation would be the same or better if they had not become ill, while 8.7% of respondents claimed that the diagnosis deteriorated their relationship with the family. The majority of respondents (84.4%) believe in having sufficient knowledge about their disease. Patients find information about diabetes in different ways most of them in internet (88%) or during medical visit(78%). About half of the respondents (48.4%) suffered from ketoacidosis, and 5.5% experienced diabetic coma (as a results of ketosis). 1/3 of respondents had visual disturbances.

Conclusion: Diabetes type 1 is often diagnosed at young age affecting the later life of patients. The disease has significant influence on quality of life by causing numerous complications. The basic role in preventing them is the glucose levels self-control. Although the majority of respondents believe in having adequate knowledge about diabetes, this not always has an appropriate compliance with treatment recommendations. Approximately half of patients experienced ketoacidosis, which is an acute complication of diabetes due to inappropriate treatment (usually caused by skipping the insulin dose, taking too small dose, discontinuation of treatment) which constitutes a direct threat to life.

TITLE: **CLINICAL AND HORMONAL PROFILE OF THE PATIENTS WITH A SECONDARY EMPTY SELLA SYNDROME**.

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CO-AUTHORS: Katarzyna Mendyk, Agnieszka Radzka, Michał Góra, Klaudia Brożyna [2]

SUPERVISOR: Ewa Obel MD, PhD [2]

AFFILIATION: [1]Jagiellonian University Medical College, [2]Students' Scientific Society at Department of Endocrinology, Medical University of Lublin

Introduction: Secondary empty sella syndrome (SES) is the result of the pituitary gland regressing within the cavity after tumor or iatrogenic reason (an injury, surgery, or radiation therapy). Patients with a secondary empty sella syndrome can sometimes have symptoms that reflect the loss of pituitary functions.

Aim of study: To evaluate the clinical and hormonal profile of the patients with a secondary empty sella syndrome.

Material and methods: We assessed retrospectively 68 (60,29% female) consecutive patients with secondary empty sella syndrome. A detailed survey of medical records was performed. We evaluated clinical characteristics, pituitary function and radiological features.

Results: In SES group the female to male ratio was 1,5 to 1. Median age of the patients was 54,5. Among patients with SES there were 32 patients with macroadenoma (47,76%) and 13 patients with another sella area tumor (19,4%). Nelson syndrome and chondroma were the rarest reason of SES among our patietnts (1,49% in both of them). In patients with SES MRI was ordered for multiple reasons: headache, endocrine disorders, visual disturbances, neurological symptoms and others. The most frequent hormonal imbalances in an iatrogenic empty sella syndrome were adrenal (68 patients) and thyroid (68 patients) insufficiency. Only 1 patient was diagnosed with prolactin deficiency.

Conclusions: Multiple pituitary deficiency is one most of frequent disorder among patient with SES A regular endocrine, neuro- and ophthalmological and radiological assessment is recommended because of the theoretical risk of progression.

ONCOLOGY AND GINEACOLOGY

Title: ACCURACY AND RELEVANCE OF ANTEPARTAL ESTIMATED FETAL WEIGHT MEASURED WITH ULTRASOUND WITHIN 48 HOURS BEFORE DELIVERY VS ACTUAL BIRTH WEIGHT.

First author: Agata Staroń

Co-authors: Dorota Napieracz, Nadia Sajuk, Mirella Brzozowska, Zuzanna Malina

Supervisor: Małgorzata Radoń-Pokracka MD

Affiliation: Jagiellonian University, Collegium Medicum

Introduction: Estimated fetal weight is a crucial parameter in antepartal evaluation of high-risk pregnancies. Ultrasonographic estimation of fetal weight may be helpful in decision-making concerning the route of delivery - by vaginal labour or caesarean section.

Aim of study: The aim of the study was to evaluate the accuracy of antepartal sonographic estimation of fetal weight in prediction of actual birth weight.

Material and methods: The retrospective study included 914 pregnant women who gave birth in Department of Obstetrics and Perinatology JU MC between July and December 2016. Inclusion criteria were: singleton pregnancy and the interval between estimation of fetal weight and delivery within 48 hours. All measurement were performed by doctors from Department of Obstetrics and Perinatology JU MC. EFW was calculated using a method based on the study of Hadlock et al. EFW and ABW were compared by calculating mean absolute error and mean absolute percentage error. Data was analysed using Student's t-test and Pearsons' coefficient of correlation. $p < 0,05$ was statistically significant.

Results: Mean age of study group was 31,4 ± 4,7. Mean parity and mean gestational age (in weeks) were 2 ± 1 and 38,56 ± 1,89 respectively. Pearsons' coefficient of correlation between ultrasound-measured EFW and ABW showed very high correlation (r=0,86) according to Guilford's scale. No statistically significant differences (p>0,05) between EFW and ABW were observed for children with ABW between 2500 and 4000g (p=0,82) and for pregnancies with gestational age <36+6 (p=0,56), 37 – 39+6 (p=0,059) and >40 weeks (p=0,435). Moreover, ultrasonographic method of fetal weight estimation has propensity to underestimation of ABW >4000g and to overestimation of ABW <2500g. For ABW 2500-4000g, sensitivity, specificity, positive predictive value and negative predictive value were 94,3%, 58,9%, 92,3% and 66,2% respectively.

Conclusions: Ultrasound-measured EFW performed within 48 hours before delivery is a good predictor of actual birth weight for fetuses of normal weight regardless of the gestational age. Estimation of fetal weight has the highest sensitivity and positive predictive value for normal birth weights (2500-4000g).

Title: NEPHROTOXICITY AND BONE MARROW SUPRESSION: CAN WE PREDICT THEIR DEVELOPMENT IN PATIENTS WITH MUSCLE INVASIVE URINARY BLADDER CANCER UNDERGOING NEOADJUVANT CHEMOTHERAPY?

First author: Mateusz Łobacz

Co-authors: Paulina Frączek, Anna Kaczmarska, Piotr Madej, Martyna Schönborn

Supervisor: Agnieszka Słowik MD

Affiliation: Students' Scientific Group at Department of Oncology, Jagiellonian University Medical College

Introduction: Urinary bladder cancer (UBC) is the most common malignancy of the urinary tract and the 5th most common cancer in the Polish population. Up to 90% of UBC cases at the time of the diagnosis already exceed the lamina propria and invades the muscular layer of the bladder (MIBC). A preferred management for patients with MIBC is neoadjuvant chemotherapy (NCT) prior to radical cystectomy. Adverse events (AE) induced by NTC, such as nephrotoxicity or bone marrow suppression (BMS), has been reported in literature. However, there is little evidence on parameters predicting their development.

Aim of study: The aim of the study was to assess the utility of parameters of pre-therapeutic morphology and ratios calculated on their basis [neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), systemic immune-inflammation index (SII) - neutrophil*platelets/lymphocytes] in predicting the occurrence of AE in patients with MIBC undergoing NCT.

Material and methods: The data were extracted from medical records of 32 patients (27 males) with MIBC, treated with NCT in the Department of Clinical Oncology, JUMC, Krakow, between 2014 and 2016. Pretreatment morphology parameters, NLR, PLR, SII and AE occurrence were analyzed. Statistical analysis was performed with Statistica 12.0 software. P value below 5% was considered significant.

Results: The most common regimen of NCT was cisplatin + gemcitabine (71,8%). Chemotherapy was postponed in 25 cases (78%), most often due to BMS. Hematological AE occurred in 30/32 patients. Anemia was reported in 27/32 patients. 12/32 patients experienced acute nephrotoxicity. Patients who developed anemia in the course of NCT had higher median pretreatment SII (833.55 vs 379.47; p=0.007) and statistically significant higher pretreatment NLR (2.81 (±1.37) vs 1.84 (±1.06); p=0.046). Group with reported nephrotoxicity presented lower hemoglobin level before NCT than the group with no NCT-induced kidney injury, however with no statistical significance (12.33 vs 13.47 g/dl, p=0.09). Finally, among patients who developed thrombocytopenia lower median pretreatment PLR value was reported (130.2 vs 186.74 p=0.002).

Conclusions: SII, NLR and PLR could potentially be applied as independent parameters to predict the occurrence of AE during NCT of MIBC. SII and NLR could serve to assess the risk of anemia, whereas PLR could be useful in predicting thrombocytopenia. The limit of our study was the number of subjects included. Further research in this field is warranted.

Title: THE ASSESMENT OF THE CONCENTRATION OF VITAMIN D IN THE BLOOD SERUM OF OBESE PREGNANT WOMEN WITH PREECLAMPSIA.

First author: Maciej Grad

Co-authors: Olga Padała, Monika Majcher, Adrianna Krupa, Andrzej Miturski

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Introduction: Preeclampsia is a multisystem disorder diagnosed by new-onset hypertension and proteinuria. There is a growing interest in the role of maternal vitamin D status in the development of preeclampsia. Vitamin-D (25-hydroxyvitamin-D) is a derivative of cholesterol, a substance having a hormonal action, which plays a role in the calcium-phosphate metabolism and regulates the immune system. The supplementation of vitamin D can reduce the risk of preterm birth, gestational diabetes as well as preeclampsia. Vitamin D has diverse and protein functions that may be relevant in the pathophysiology of preeclampsia, including abnormal placental implantation and angiogenesis, excessive inflammation, hypertension, and immune dysfunction. Concentration of vitamin-D is increased during normal pregnancy. Obese are predisposed to the occurrence of deficiency of vitamin-D.

Aim of study: Evaluation of vitamin-D serum levels of obese pregnant women with preeclampsia and umbilical cord blood.

Material and methods: 86 pregnant women took part in the study. Group "OP" (n = 23) consisted of pregnant obese women (BMI> 30) with preeclampsia. Group "O" consisted of pregnants with obesity (n = 35). The control group "K" (n = 28) consisted of healthy pregnant women with normal BMI. For 25-hydroxyvitamin-D (25(OH)D) analyses venous blood samples were obtained from the umbilical cord and the mother in III trimester of pregnancy. 25(OH)D results were obtained by using the commercial ELISA kit.

Results: The main value of vitamin D in serum of “OP”, “O” and control group were respectively: 15.99 ng/ml (13,33-18,64 ng/ml), 15.98 ng/ml (13,86-18,1 ng/ml) and 21.02 ng/ml (18,24-23,80 ng/ml). The value of 25(OH)D in the umbilical cord serum of obese pregnant with preeclampsia, obese pregnant without preeclampsia and the control group were respectively: 11.57 ng/ml (9,48-13,6 ng/ml), 12.17 ng/ml (10,01-14,33 ng/ml) and 14.9 ng/ml (12,4-17,4 ng/ml). Vitamin D deficiency (<20 ng/ml) was found in 74% of obese with preeclampsia, 71% obese without preeclampsia and 46% of healthy pregnant women,. Critical vitamin D deficiency (<10 ng/ml) were found in 22% of group “OP” members and in 11% of group “O” members.

Conclusions: Decreased level of vitamin D had been found among pregnant women with preeclampsia and obese pregnant as well as in fetal umbilical vein. Modifications of vitamin D doses recommended for obese women during pregnancy should be considered.

Title: CD200/CD200R SIGNALING PATHWAY IN PATHOGENESIS OF CHRONIC INFLAMMATION AND GASTRIC CANCER.

First author: Michał Mielnik

Co-authors: Jakub Matejuk, Martyna Podgajna, Karolina Ładosz, Mateusz Mielnik

Supervisor: assoc. prof. Ewelina Grywalska MD, PhD

Affiliation: Department of Clinical Immunology and Immunotherapy, Medical University of Lublin

Introduction: Gastric cancer (GC) is one of the leading causes of cancer death worldwide. The membrane glycoprotein CD200, widely expressed on multiple cells/tissues, uses a structurally similar receptor (CD200R), delivering immunoregulatory signals. There is an evidence that CD200/CD200R signaling suppresses anti-tumor responses in different types of malignancies. Little is known about CD200/CD200R pathway in GC.

Aim of study: The aim of the study was to evaluate the frequencies of CD200+ and CD200R+ lymphocytes in patients with GC.

Material and methods: Forty male patients primarily diagnosed with GC and twenty age- and sex-matched healthy persons were enrolled. The viable peripheral blood lymphocytes underwent labeling with fluorochrome-conjugated monoclonal antibodies, and were analyzed using a flow cytometer.

Results: In GC group, the percentages of T CD3+/CD4+ and T CD3+/CD8+ cells expressing CD200 antigen were higher than in controls ($p< 0.0001$). In GC group, the frequencies of T CD3+/CD4+ and T CD3+/CD8+ cells expressing CD200R were lower than in controls ($p< 0.001$, $p< 0.004$, and $p< 0.002$, respectively). The percentage of B CD19+/CD200+ lymphocytes was higher in GC patients than in controls ($p< 0.00001$). Lower frequency of B CD19+/CD200R+ cells was observed in GC patients comparing to controls ($p< 0.00001$). The differences in the frequencies of CD200+ and CD200R+ lymphocytes were found neither in relation to Union for International Cancer Control (UICC) stage nor to histological grading of the tumors.

Conclusions: Deregulation of CD200/CD200R axis is important for GC pathogenesis. High percentages of lymphocytes with CD200 expression may contribute to the continuous T cells activation, development of chronic inflammation and influence gastric carcinogenesis.

Title: INFLUENZA VACCINE THERAPY IN CHRONIC LYMPHOCYTIC LEUKEMIA PATIENTS AND NEW POSSIBILITIES OF RESPONSE EVALUATION BASED ON A STUDY OF PERIPHERAL BLOOD.

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Supervisor: assoc. prof. Ewelina Grywalska MD, PhD

Affiliation: Department of Clinical Immunology and Immunotherapy, Medical University of Lublin

Introduction: Chronic lymphocytic leukemia (CLL) leads to significant immune system dysfunction. Infections are the most common cause of deaths in CLL patients. Treatment-naive patients typically present with respiratory tract infections caused by influenza. Clinical data indicates that despite normal serum immunoglobulin (Ig) level, treatment-naive patients may not respond to influenza vaccination.

Aim of study: The aim of the study was to investigate changes in B-cell subpopulations in CLL patients, including plasmablasts, in peripheral blood by flow cytometry after influenza vaccination and to evaluate if plasmablasts may serve as a diagnostic tool for assessing response to vaccination.

Material and methods: Forty treatment-naive CLL patients and twenty healthy volunteers were immunized with influenza vaccine. Specific antibody levels and frequencies of plasmablasts were measured before vaccination and on day 30 by ELISA assay, and day 7 by flow cytometry after vaccination, respectively. Both groups were also evaluated for the levels of IgG and IgG subclasses, and the frequencies of selected peripheral blood lymphocyte subpopulations before and 30 days after immunization.

Results: Of the forty CLL patients studied, 100% lacked detectable changes in the serum level of specific anti-influenzae IgG antibodies before and after vaccination (mean: 122.41-41.94 mU/ml vs. mean: 128.37-52.13 mU/ml, respectively; p=0.24). In none of patients an increase of the percentages and absolute counts of plasmablasts was noted. In the control group, an increase in circulating plasmablasts on day 7 post immunization corresponded with the appearance of specific antibody levels on day 30 post immunization (r=0.823, p=0.000001) and was statistically significantly higher than before a dose of influenza vaccine (before vaccination: 20.12-14.93%, 0.46-0.36x10^3/mm^3; after vaccination: 46.81-26.87%, 1.15-0.77x10^3/mm^3; p=0.01). In contrast, CLL patients failed to increase plasmablasts significantly in peripheral blood after antigen challenge.

Conclusions: Our findings indicate that treatment-naive CLL patients have a block in terminal B-cell differentiation and that flow cytometry-based assessment of plasmablasts in peripheral blood after vaccination serves as a surrogate diagnostic marker for assessing in vivo antibody response in patients with CLL.

Title: DOES EBV INFECTION INFLUENCE THE INTRACELLULAR EXPRESSION OF IFN GAMMA IN CLL PATIENTS?

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Supervisor: assoc. prof. Ewelina Grywalska MD, PhD

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Introduction: Interferons are the first line of defense against viral infections, combining the mechanisms of innate and adaptive immunity and reducing replication and spread of infection. IFN-gamma plays a vital role in enhancing specific immune response. Signal transduction disorders resulting from inappropriate interaction between IFN-gamma and its receptor are one of the causes of the reduced immunogenicity of tumor cells.

Aim of study: The aim of this study was to assess the differences in the intracellular expression of IFN-gamma between CLL EBV(+) patients, CLL EBV(-) patients and healthy individuals.

Material and Methods: This prospective study included 20 patients with CLL EBV(+), 20 patients with CLL EBV(-), and 15 healthy individuals. Blood samples were taken and PBMC incubations were conducted in a medium containing RPMI, human albumin, antibiotics and stimulators of lymphocytes. Prepared PBMC were labeled with monoclonal antibodies to assess the expression of surface markers and intracellular cytokine and subjected to cytometric analysis.

Results: Patients with EBV(+) were characterized by a lower absolute number of CD3+/CD4+ lymphocytes with intracellular expression of interferon-gamma than patients with EBV(-) (p=0.0027) Patients included in the EBV(+) group had significantly lower absolute number of CD3+/CD8+ lymphocytes with intracellular expression of interferon gamma than patients from EBV(-) group (p=0.0044). Those patients were characterized by the significantly lower absolute number of CD19+ cells with intracellular expression of discussed cytokine than patients from EBV(-) group (p=0.0089).

Conclusions: Determination of the reduced number of cells with an intracellular expression of interferon gamma in CLL patients who demonstrated the presence of EBV DNA as compared to patients EBV(-) and those from the control group, demonstrates the immunosuppression of cellular response and areactivity of lymphocytes to the examined virus.

Title: THE IMPACT OF GESTATIONAL WEIGHT GAIN ON OBSTETRIC OUTCOMES, RESULTS OF BIOELECTRICAL IMPEDANCE ANALYSIS AND BODY WEIGHT CHANGES OF PATIENTS DURING 5 TO 6 MONTHS PERIOD AFTER DELIVERY.

First author: Monika Długoń

Co-authors: Maciej Kamiński, Paulina Grzesik, Dominika Fic

Supervisor: Żaneta Kimber-Trojnar MD, PhD

Affiliation: Chair and Department of Obstetrics and Perinatology, Medical University of Lublin

Introduction: The Polish Gynecological Society and the Institute of Medicine recommend to measure the weight of the pregnant patient during outpatient visits. Gestational weight gain (GWG) should be calculated according to pre-pregnancy body mass index (PPBMI), i.e.: • for underweight women (PPBMI < 19.8): 12.5-18 kg, • for patients with normal weight (PPBMI of 19.8 to 24,9): 11.5-16 kg • for overweight women (PPBMI of 25 to 29,9): 7-11.5 kg, • for obese patients (PPBMI > 30): GWG should not exceed 7 kg.

Aim of study: The aim of the study is to compare the obstetric outcomes, results of bioelectrical impedance analysis (BIA) and weight changes during 5-6 months after delivery depending on GWG.

Material and methods: The study participants (76 mothers, who delivered in the Chair and Department of Obstetrics and Perinatology, Medical University of Lublin) were divided into two groups: 1. group (n=41) -mothers with normal GWG 2. group (n=36) -mothers with excessive GWG The methodology includes the results of questionnaires conducted among mothers 2-3 days and 5-6 months after their delivery. Maternal body composition and hydration status were assessed by BIA (BCM; Fresenius Medical Care). Statistical analysis was performed using the Mann-Whitney, $\chi 2$ test, and cross-tabulation analysis. A p-value ≤ 0.05 was considered statistically significant.

Results: The comparison of maternal age, number of pregnancies, Apgar score, and free fat tissue index did not reveal statistical significance. Lower neonatal birth weight (3132,6g vs. 3575g; p<0,01), fat tissue index (11,9 vs. 18,2; p<0,0001), total body water (31,2 vs. 35,5; p<0,0001), adipose tissue mass (33,0 vs. 43,3; p<0,0001) and body cell mass (17,6 vs, 18,8; p<0,05) were observed in the group of mothers with normal GWG. Eating habits during gestation period were changed by 60,5% women in the first group and only 38,2% patients with excessive GWG (p<0,05). Woman in the first group were noted to have slower weight loss in the period of 5-6 months after delivery (ΔBMI representing the change of BMI divided by weeks after delivery (-0,043 vs. -0,076; p <0.01).

Conclusions: Despite diagnostic significance and safety BIA is rarely used in women in the postpartum period. Due to high prevalence of excessive gestational weight gain this method seems valuable in promoting healthy lifestyle and proper weight reduction after delivery in those patients. Gestational weight gain is associated with eating habits, newborn birth weight and maternal weight loss after delivery.

Title: INFLUENCE OF PRE PREGNANCY BODY MASS INDEX ON THE OBSTETRIC OUTCOMES, RESULTS OF BIOELECTRICAL IMPEDANCE ANALYSIS AS WELL AS QUESTIONNAIRES CONDUCTED IN WOMEN IN THE POST PARTUM PERIOD.

First author: Maciej Kamiński

Co-authors: Monika Długoń, Paulina Grzesik, Dominika Fic,

Supervisor: Żaneta Kimber-Trojnar MD, PhD

Affiliation: Chair and Department of Obstetrics and Perinatology, Medical University of Lublin

Introduction: There has been an alarming rise in the incidence of overweight and obesity worldwide. The prevalence of maternal obesity has more than doubled from 7.6 to 15.6% over the last two decades.

Aim of study: The aim of the study is to compare the obstetric outcomes, results of bioelectrical impedance analysis (BIA) as well as questionnaires in women in the post-partum period in relation to pre-pregnancy BMI (PPBMI).

Material and methods: The study participants (76 mothers, who delivered in the Chair and Department of Obstetrics and Perinatology, Medical University of Lublin) were divided into two groups: 1. group (n=59) -mothers with PPBMI<24.9 kg/m2 2. group (n=17) -mothers with PPBMI ≥25 kg/m2 The methodology includes the results of questionnaires regarding their lifestyle, activities, and medicaments used during pregnancy conducted among mothers 2-3 days and few months after delivery. Maternal body composition and hydration status were assessed by BIA (BCM; Fresenius Medical Care) at 48-72 hours after delivery. Statistical analysis was performed using the Mann-Whitney, $\chi 2$ test, and cross tabulation. A p-value ≤0.05 was considered statistically significant.

Results: The comparison of mode of delivery (vaginal or Cesarean delivery), maternal age (29,3 vs. 30,9 years), birth weight (3303,7g vs. 3467,6g), Apgar score (9,5 vs. 9,4 points), body cell mass (18,0 vs. 18,2), free fat mass index (12,1 vs. 12,2), BMI/month (-0,26 vs -0,38), lifestyle changes (0,45 vs 0,71) as well as diet changes (0,55 vs 0,38) did not reveal statistical significance between two groups. Lower fat tissue index (13,8 vs. 18,9; p<0,0001), adipose tissue mass (33,8 vs. 53,2; p<0,0001), and total body water (32,0 vs. 37,5; p< 0,001) as well as larger related free fat tissue mass (i.e. free fat tissue mass/weight; 49,7% vs. 39,5%; p<0,001) were observed in the group of patients with PPBMI<24,9 kg/m2.

Conclusions: BIA is a standardized technique, which is non-invasive, fast and, therefore, well tolerated by patients. BIA seems to be capable to serve as a valuable tool in the assessment of maternal body composition and hydration status. Larger concentration of fat mass was observed in the mothers with PPBMI ≥25 kg/m2. Maternal BMI changes in the postpartum period were not statistically significant between two groups.

Title: COMPARISON OF KNOWLEDGE ABOUT THE WOMEN MENSTRUAL CYCLE AND THEIR FERTILITY AMONG STUDENTS FROM THE MEDICAL UNIVERSITY OF LUBLIN WITH STUDENTS FROM OTHER LUBLIN UNIVERSITIES.

First author: Katarzyna Wiśniewska

Co-authors: Anna Kopiejek

Supervisor: Agnieszka Bień MD, PhD

Affiliation: Student Scientific Association at the Department of Obstetrics, Medical University of Lublin

Introduction: Knowledge about woman's menstrual cycle and her fertility is important in the man's life, a future partner, husband, father. Both medical and non-medical students should have appriopriate knowledge in this field. This knowledge can be used in male-to-female relationships, which will allow them to better understand changes in the woman psyche according to the perdiod of the menstrual cycle, and it will allow them to prepare for conscious parenting.

Aim of study: The aim of the study was to compare a knowledge of male students from the Medical University (UM) in Lublin and other Lublin students about the menstrual cycle and women's fertility.

Material and methods: In study took part 93 students from the Medical University of Lublin and 191 students from other Lublin universities. In study it used a diagnostic survey method- original questionnaire. The respondents participating in the study were informed about volunteering, anonymity of participation in the research, and using results only for scientific purposes.

Results: Both students from UM Lublin University (53.8%) and students from other Lublin universities (41.9%) were an opinion that their knowledge about women's menstrual cycle was higher than those of other universities. The UM students admitted that their knowledge about menstrual cycle was mainly from textbooks and scientific articles (78.5%), from classes and lectures at the university (74.2%), from the Internet (55.9%), while non-medical students' knowledge come was from the Internet (70.2%), from girlfriend/wife (67.5%) and from textbooks and scientific articles (44.5%). A main problem for UM students was a response to questions about women menstrual bleeding length (62.4%) and egg's survival time (31.2%). Students from other universities gave the most wrong answers to questions about a space of fertilization (24.6%) and how pH has female's fertile mucus (33.0%).

Conclusions: The knowledge of students from the Medical University of Lublin and other Lublin universities about women's menstrual cycle and their fertility is comparable. UM students were giving strictly textbook-based answers, compatible with definitions, while non-medical Lublin students' were approaching to questions more practically, choosing correct answers more often. All Lublin students' knowledge about the women's menstrual cycle and their fertility needs to be complemented.

Title: EPISIOTOMY - OLD FASHION OR EBM? THE KNOWLEDGE AND THE OPINION OF PATIENTS.

First author:Olga Padała

Co-authors: Adrianna Krupa, Kinga Wdowiarz, Anna Orzeł

Supervisor: assoc. prof. Anna Semczuk-Sikora MD, PhD

Affiliation: Students' Reaserch Society at the Department of Obstetrics and Pathology of Pregnancy, Medical University of Lublin

Aim of study: Analysis of the opinion and the knowledge about episiotomy among the patients of obstetrics and gynecology departments Lublin and Rzeszów.

Material and methods: The study was conducted in 2015 and 2016 using a standardized interview. It involved 95 patients of three departments (obstetrics department in Lublin, gynecology department in Lublin, obstetrics and gynecology department in Rzeszów). The author's interview questionnaire was the reaserch tool. 31 questions were included, both single and multiple choice. Analysis of the results was performed with Microsoft Excel.

Results: The respondents were aged 18-59. All of them had episiotomy at least once. As much as 66% knew that the incision is necessary only in the special cases. Almost 20% answered it should be done during every labor. Two most often mentioned indicators to the episiotomy were the fetus weight higher than 4 kg and the high risk of laceration. The patients were asked about the opinion heard from the medical staff. About 73% of respondents chose the answer "Episiotomy should be performed only when it's necessary, not as a routine." The sentence "Episiotomy should be a routine" was checked by 6% of women. Only 47% of patients were informed about the plan of doing an incision at the begging of the labor and only 40% were informed about the purpose of this procedure. There was a question concerning the satisfaction from sexual intercourse after the incision. Only 47% of respondents claimed that it's alike before.

Conclusions: The use of an episiotomy for vaginal delivery is a controversial topic in modern obstetrics. The procedure can cause complications so it should not be used routinely. The knowledge among patients and medical staff seems to be insufficient.

Title: THE INFLUENZAE VIRUS VACCINE ANTIGENS EFFECT ON CD69 AND CD25 EXPRESSION ON CD3+ T-LYMPHOCYTES AND CD19+ B-LYMPHOCYTES AMONG CHRONIC LYMPHOCYTIC LEUKEMIA PATIENTS.

First author: Łukasz Świerszcz

Co-authors:

Supervisor: assoc. prof. Ewelina Grywalska MD, PhD

Affiliation: Students' Reaserch Society at the Department of Clinical Immunology, Medical University of Lublin

Introduction: Chronic lymphocytic leukemia (CLL) is a non-Hodgkin's B-cell leukemia, which is particularly frequent type of leukemia in adulthood. Infections are the most common complications, therefore prevention such as vaccination is of great importance for the patients with CLL and those who are undergoing treatment. The recommendations emphasize the need of administering vaccines against bacteria and seasonal influenza in such high risk group.

Aim of study: The evaluation of Influenzae virus vaccine antigens effect on CD69 and CD25 expression on CD3+ T-lymphocytes and CD19+ B-lymphocytes among chronic lymphocytic leukemia patients in comparison to healthy control group.

Material and methods: The study included 15 untreated patients with chronic lymphocytic leukemia (age: 66.9 ± 5.8). The control group consisted of 5 patients (age: 65 ± 6.8). From the 30 ml of the collected peripheral blood mononuclear cells were isolated by density gradient centrifugation. Cells were stimulated by antigen vaccine Influvac Abbott Biologicals BV. Three-color immunofluorescence analyzes were performed using a FACS Calibur Flow Cytometer (Becton Dickinson) equipped with 488 nm argon laser. Statistical analysis was performed using Statistica 10 PL. The study was a positive opinion of the Bioethics Committee of the Medical University of Lublin.

Results: Before growing the cell lines it was stated that there was statistically significant lower CD19 + / CD69 +, CD19 + / CD25 +, CD3 + / CD69 + and CD3 + CD25 + lymphocytes rate, and lower expression of theese antigens [MFI] too, in the experimental group in comparison to control one($P < 0.05$). The experimental group presented statistically significant differences in CD69 and CD25 antigens expression on CD3+ and CD19+ lymphocytes($p < 0.05$).

Conclusions: The results of the study indicate deceleration of CD3+ and CD19+ T-lymphocytes early activation in the experimental group comparing to control one. This research confirms immune response impairment appearing in patients with CLL.

INTERVENTIONAL SCIENCES

TITLE:DIFFERENCES BETWEEN FREQUENCIES OF SELECTED IMMUNE CELLS IN PATIENTS UNDERGOING EMERGENCY OR ELECTIVE SPLENECTOMY.

AUTHOR: Maciej J. Rutkowski

CO-AUTHORS: Anna Roszkowska, Łukasz Świerszcz

SUPERVISOR: assoc.prof. Ewelina Grywalska MD, PhD

AFFILIATION: The Department of Clinical Immunology, Medical University of Lublin

Introduction: In 10% to 30% of traumatic abdominal damages, spleen is being injured to some extent. The majority of this cases require removal of the organ. Also, splenectomy is considered to be an effective and safe second-line treatment for immune thrombocytopenic purpura (ITP). This creates the possibility of determining if there are immunological exponents which could be used as empirical factors advantageous in decision making process during the clinical treatment of patients suffering from ITP.

Aim of study: Assessment of impact of splenectomy on selected immune cells in patients undergoing emergency(EMS) or elective(ELS) splenectomy.

Material and methods: A study group of 100 subjects, with an average age of 31.23±28.13 years, was recruited at the Department of Clinical Immunology and Immunotherapy of the Medical University of Lublin. 50 patients (50%) were splenectomised because of a blunt abdominal trauma with spleen injury and 50 patients (50%) because of ITP. Control samples of peripheral blood (PB) were obtained from 20 healthy volunteers (age:34.82 ±31.12 years). Nobody of the splenectomised subjects in the study group and controls complained of ailments characteristic of the current infection. None of them was taking immunosuppressive or immunomodulative treatment within the last 3 months. The Local Ethical Committee at the Medical University of Lublin approved the research and patients gave their prior written consent. Three-colour immunofluorescence analyses were performed using a FACS Calibur flow cytometer (Becton Dickinson) equipped with 488 nm argon laser. Statistical analysis was performed using Statistica 6.0 (Stat Soft Inc.) software.

Results: In our study we found that significant differences occurred in some variables levels and proportions due to the reason of splenectomy. In the group of patients after an emergency procedure we observed increased median percentage of Tregs (10%) in contrary to the group which underwent an elective procedure (8%), $p<0.05$. A similar dependency could be perceived for CD5+/CD19+ B-cells; higher mean proportions of CD5+/CD19+ was observed in the group of emergency splenectomy (3.2%), whereas patients from the other group manifested significantly lower median percentages of these cells (2.4%), $p<0.05$. The study revealed that Th17 cells and NK cells frequencies were higher in patents who underwent elective procedure (Th17 cells: 1.6% vs. 0.9%, and NK cells: 0.51% vs. 0.21%, respectively), $p<0.05$.

Conclusions: There are marked differences in selected immune cells in the studied groups of patients. It seems that immune system of patients who underwent elective splenectomy due to ITP is stronger than immunity of patients who had emergency procedure. Further research is needed to observe potential changes in patients' immune system in longer perspective after surgery, as well as after treatment with thrombopoetin agonists as second line therapy drugs.

TITLE: TGF BETA IN THE PREDICTION OF INTRAPERITONEAL ADHESIONS IN OBESE PATIENTS UNDERGOING A SECOND SURGERY.

AUTHOR: Wojciech Fila

CO-AUTHORS: Michał Hader, Katarzyna Krzysiak, Piotr Gorlach

SUPERVISOR: Łukasz Pietrzyk MD, PhD, assoc. Prof. Kamil Torres, MD, PhD

AFFILIATION: Student's Scientific Association of Medical Simulation, Department of Didactics and Medical Simulation, Chair of Anatomy, Medical University of Lublin

Introduction: Intraperitoneal adhesions develop as a consequence of the healing process in peritoneum injured during surgeries and they can lead to perioperative or postoperative complications. Transforming growth factor-β has an influence on peritoneum repair processes and is associated with IA development. Adipose tissue and obesity might stimulate the formation of IA.

Aim of study: The first objective is to compare obese and non-obese patients with the history of surgical intervention who underwent surgeries with regard to the concentration of TGF-β. The second aim is to assess the diagnostic power of the preoperative value of TGF-β in the prediction of IA.

Material and methods: The study enrolled eighty patients admitted to the General, Oncological and Minimally Invasive Surgery Department of the 1st Military Clinical Hospital in Lublin for surgery. The patients had the history of the abdominopelvic surgery. The presence of IA was reported during the surgery using PAI index. The level of TGF-β was determined from blood samples obtained before the surgery. Patients were divided into groups according to BMI values and presence of IA. BMI classification included non-obese and obese group (each consisted of 40 patients). Second patients' classification included: group IA consisted of 38 patients and group no-IA enrolled 42 patients. Differences were accessed using Mann-Whitney U-test and correlations with Spearman's test. Differences of $p < 0.05$ were considered to be significant.

Results: The mean value of TGF-β serum concentration was significantly higher in obese patients compared to the non-obese group (46387.39 to 32888.23). IA adhesions were reported in 47.5% of the total patients' population and were present statistically more often in the obese than in the non-obese group (72.5% vs. 27.5%). The mean peritoneal adhesion index (PAI) in IA group was 4.33 ± 2.10. The mean value of TGF-β serum concentration was significantly higher in patients with IA in comparison to non-IA patients group (49046.97 to 33210.56). The mean value of PAI was higher in high compared to the low TGF-β group. There was a significant correlation between PAI values and TGF-β concentration ($p <0.001$) in IA group.

Conclusions: Preoperative TGF-β concentration could be a strong predictor of intraperitoneal adhesions in patients with the surgeries in history. To confirm the diagnostic value of TGF-β in the prediction of IA occurrence, it is necessary to examine larger population in future.

TITLE: PTS SCALE AS A PREDICTOR OF INJURY SEVERITY IN POLYTRAUMATIZED PEDIATRIC PATIENTS.

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Introduction: Polytrauma is a medical term describing the condition of a person who has been subjected to multiple traumatic injuries that affect at least two organs or systems and need specialistic care. They are a result of a high energy trauma, which leads to a severe condition alongside with circulatory, respiratory insufficiency and multiple organ failure. Polytrauma is the third cause of death among the population worldwide and first in patients at the age between 18 and 44.

Aim of study: The study aims to evaluate the prognostic value of Pediatric Trauma Score in polytraumatized pediatric patients.

Material and methods: Clinical data of 54 polytrauma patients (21 females, average age 10,14+/-5,65) were restrospectively analyzed. Patients were evaluated according to PTS scale which criterias are: airway patency, state of consciousness, systolic blood pressure, wounds and bone fractures presence. Information about ICU and general hospitalization time, mechanical ventilation time and pressor amines usage time was collected. The collected data was statistically analyzed.

Results: In the analyzed group, scores ranged from -4 to 5 points. Every one of the 54 patients needed treatment in the Intensive Care Unit. Mortality rate in the whole group was 20% and in patients with a score below 0- 42%. The research demonstrated a statistically substantial correlation between PTS number and mortality (p=0,001873), ICU hospitalization time (p<10^-14), mechanical ventilation time (p<10^-10) and pressor amines usage (p=0,018725).

Conclusions: Pediatric Trauma Score allows a quick assesment of the patients condition after trauma. It simpliflies the selection of patients and qualification for treatment at the Trauma Center.

TITLE: INTRACRANIAL COMPLICATIONS OF SINUSITIS AND OTITIS.

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Introduction: Acute otitis and sinusitis are common diseases in children. In most cases, the course is typical, and the treatment is performed in the outpatient settings. However, in minority of children it can result in the development of intracranial complications in the course of the infection. Initial symptoms of developing complications are usually non specific and masked by the antibiotic treatment. Prompt and accurate diagnosis allows the implementation of correct treatment. Treatment includes surgical removal of the primary focus of infection and drug treatment. Due to the necessity of interdisciplinary management of the disease it is strongly recommended to treat patients in the centers where ENT, intensive care unit, neurosurgery and neurology are available.

Aim of study: Analysis of the types of intracranial complications, establishing etiology, analysis of clinical symptoms and results of treatment

Material and methods: A retrospective study was conducted on the basis of medical records of children hospitalized in the Department of Pediatric Otolaryngology Upper Silesian Child Health Centre in Katowice due to intracranial complications of otitis and sinusitis in the period between 2004 and 2016. The study included age, gender, source of infection, type of complications, radiological images, results of culture swabs, types of surgery, drug therapy, length of in patient stay and neurological condition post treatment. There was 44 childrenv enrolled : 24 with complications of otitis and 20 with complications of sinusitis. The collected data was statistically analyzed.

Results: The main symptoms of intracranial complications are fever and headache. The most common complications in the case of sinusitis were subdural and epidural empyema, and meningitis. In patients with otitis, the most common complications were cerebral venous sinus thrombosis and meningitis. There was one death and three cases required neurosurgical intervention

Conclusions: Intracranial complications of sinusitis and otitis most commonly occur in children during the acute inflammation process. Knowledge of clinical symptoms and the appropriate use of ancillary tests allows prompt and correct diagnosis. Surgical treatment combined with medical therapy increases probability of the complete resolution without permanent neurological deficits

TITLE: EVALUATION OF QUALITY OF TRANSURETHRAL BLADDER TUMOR RESECTION (TURBT) PROCEDURE BASED ON NUMBER OF RECURRENCE.

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Introduction: Transurethral bladder tumor resection is one of the most basic methods used for diagnosing and treatment of Non-Muscle Invasive Bladder Cancer (NMIBC). The main goals of the procedure are: The radical excision of the bladder tumor and , obtaining good quality specimen i.e. including a margin of muscle fibers for confirmation of the radicality of the surgery, assessment of depth of infiltration (staging) and degree of differentiation (grading).

Aim of study: The aim of the study was to assess the relation between number of recurrences and the presence of muscle layer in the pathological specimens gathered in the Department of Urology and Urological Oncology of Medical University of Lublin in 2016.

Material and methods: We retrospectively reviewed 145 TURBT and reTURBT procedures suitable for our study. 69 of specimens had muscle layer described by the pathologist. The study included the histological type, clinical stage and the presence of muscle layer in the specimens. Altogether we evaluated 83 patients.

Results: There were 34 recurrences which is 40,1% of patients. 22 of patients with recurrence had muscle layer present in the specimen and 12 did not. 21 patients without recurrence had muscle fibers in the specimen and 28 did not.

Conclusions: TURBT is one of the most important procedures used to diagnose and treat suspected lesions in the bladder. Procedure is performed correctly if there are no missed lesions, tumor specimens include muscle layer and if there are no complications. It is considered that if muscle fibers are found in over 50% of pathological specimens TURBT is performed acceptably. Our study showed that statistically in the group of patients with recurrences significantly more patients had muscle fibers in the specimen. That can lead to a conclusion that presence of muscle layer is not that important in the terms of frequency of recurrence of NMIBC.

TITLE: SURGICAL ADDITIVE MANUFACTURING: A MULTIDEPARTMENT PILOT STUDY REPORT.

AUTHOR: Jan Witowski

CO-AUTHORS: Mateusz Sitkowski, Julia Krzywoń, Zuzanna Malina [1], Tomasz Zbigniew Zuzak [2]

SUPERVISOR: Michał Pędziwiatr MD,PhD

AFFILIATION [1] Students' Scientific Society at 2nd Chair of General Surgery, Jagiellonian University Medical College; [2]Students' Scientific Society at Diagnostic Techniques Laboratory, Medical University of Lublin

Introduction: Additive manufacturing (AM) has been found to be beneficial on multiple stages of treatment process in surgical departments. Most importantly, 3D-printed models offer surgeons precise preoperative planning due to possibility of making each model patient-specific. They can also be used in patients' education and after the treatment itself, medical education may be facilitated.

Aim of study: Our pilot study, planned in multiple surgical departments, including general surgery, vascular surgery and cardiac surgery evaluates the efficacy of three-dimensional printing of personalized anatomical models.

Material and methods: Based on medical imaging, including computed tomography (CT), magnetic resonance imaging (MRI) and their modalities, three-dimensional anatomical structures were segmented with appropriate algorithms. After virtual mesh finishing and rendering, models were printed on 3D printer, utilizing fused deposition modeling (FDM) fabrication technique, with polylactic acid (PLA) filament. Models were delivered to surgical teams for preoperative planning and intraoperative guidance and shown to patients for their education. Questionnaires were used to quantitatively assess satisfaction and opinions on models.

Results: Three-dimensional, personalized, low-cost models of livers, aneurysms and hearts were printed, provided to surgeons and used to educate patients. Early reports suggest that AM may be beneficial on all stages of treatment process. Models helped surgeons with recognizing spatial relationships and were described by patients as significantly helpful in understanding the surgery and the disease.

Conclusions: AM is a step forward towards personalized and digitized medicine. It is not limited to any specific surgical field, which our study proves by being used in multiple departments. Combining physical 3D models with standard medical imaging or rendering techniques is a unique approach that provides surgeons with additional, immersive visualization of complex spatial anatomy. Still, time of models development is a limitation that makes AM unable to be used in emergent cases. Randomized controlled trials are required to evaluate potential clinical benefits of using this technology.

TITLE: ASSESSMENT OF MACULA FUNCTION AFTER VITRECTOMY.

AUTHOR: Hussain Almaklas, Abdullah Almoabdi

CO-AUTHORS:

SUPERVISOR: assoc. prof. Katarzyna Nowomiejska MD, PhD

AFFILIATION: Chair and Department of General Ophthalmology, Medical University in Lublin

Introduction: Assessment of the macula function using M-charts and microperimetry in patients after vitrectomy due to macular hole

Aim of study: Prospective 6-months observation of functional results in patients after vitrectomy due to macular hole.

Material and methods: Thirteen consecutive patients (12 females, 1 male; mean age 64 years) with macular hole were included in the study. Distance and near visual acuity, Amsler test, M-charts and microperimetry were performed before, one month and 3 months after surgery.

Results: Horizontal M-charts score was 0.7 and vertical M-charts score 0.6 before vitrectomy. After one month it was 0.5 and 0.4, after 3 months 0.4 and 0.3 respectively. Macular integrity index was 98% before surgery, 97% one month and 95% three months after surgery. Mean deviation in static perimetry was 25, 27 and 28 dB respectively.

Conclusions: Improvement of the macula function has been observed in all patients during follow-up period. Both M-charts and microperimetry are new additional diagnostic tools for monitoring of the macula function in longitudinal follow-up in patients after vitrectomy due to macular hole.

TITLE: EFFECTIVENESS OF VITRECTOMY IN TERSON SYNDROME - CASE SERIES

AUTHOR: Katarzyna Wrona

CO-AUTHORS: Katarzyna Załuska, Edyta Koman,

SUPERVISOR: prof. Robert Rejdak MD, PhD, assoc. prof. Katarzyna Nowomiejska MD, PhD, Dominika Nowakowska MD, PhD

AFFILIATION: Department of General Ophthalmology, Medical University in Lublin

Introduction: Terson syndrome is defined as a vitreous or retinal haemorrhage associated with subarachnoid hemorrhage and is thought most likely to result from a sudden large increase in intracranial pressure.

Aim of study: Retrospective evaluation of the visual outcomes of vitrectomy in a series of 5 eyes of 3 patients with vitreous hemorrhage due to the Terson syndrome.

Material and methods: There were two bilateral cases and one unilateral - 5 eyes of 3 patients. The neurological diagnosis included cranio-cerebral trauma and cerebral aneurysm rupture. The mean time interval between intracranial haemorrhage and vitrectomy was 9 months (range 7-10 months). Pars plana vitrectomy was performed with BSS as a tamponade in three eyes, SF6 gas in one eye and silicone oil in one eye. The mean follow-up period was 11 months (range 1-27 months).

Results: The best visual outcomes were achieved with BSS as a tamponade, the worst was with silicone oil as a tamponade and retinal detachment.

Conclusions: Performing vitrectomy with BSS as a tamponade in patients with Terson syndrome significantly improves visual acuity, thus, early diagnosis and surgical treatment are crucial.

POSTER SESSION

TITLE: INFLUENCE OF DRONEDARONE ADMINISTERED ALONE AND IN COMBINATION WITH CLASSICAL ANTIEPILEPTIC DRUGS ON LONG TERM MEMORY IN THE PASSIVE AVOIDANCE TASK IN MICE.

AUTHOR: Paweł Marzęda

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SUPERVISOR: Prof. Jarogniew Łuszczki MD, PhD

AFFILIATION: Department of Pathophysiology, Medical University of Lublin

Introduction: Donedarone (Multaq) is a novel class III antiarrhythmic drug used in cardiology as an alternative to amiodarone to treat atrial fibrillation and atrial flutter in patients. Dronedarone is a "multichannel blocker" because of inhibition of multiple outward K+ currents, inward rapid Na+ current and L-type Ca2+ channels. Previous experiments in animals indicated that dronedarone increased the threshold for electroconvulsions in mice.

Aim of study: This study was aimed at evaluating the influence of dronedarone (50 mg/kg) administered intraperitoneally alone or in combination with four classic antiepileptic drugs (carbamazepine, phenobarbital, phenytoin and valproate) on long-term memory in mice subjected to the step-through passive avoidance task. The antiepileptic drugs were administered intraperitoneally at doses corresponding to their median effective doses (ED50) from the maximal electroshock-induced seizure test in mice.

Material and methods: In the passive avoidance task, on the first day before training, each mouse receiving the respective treatment was placed in the light box connected to a larger dark box equipped with an electric grid floor. Entrance of the mice to the dark box was punished by an electric footshock for 2 s. The next day, the pretrained animals were placed again into the light box and observed for 180 s. The animals presenting long-term memory deficits (unable to learn and acquire the task or recall the task) enter the dark box before 180 s. Statistical analysis of data from the passive avoidance task was performed with the Kruskall-Wallis non-parametric analysis of variance (ANOVA).

Results: Neither dronedarone administered alone at 50 mg/kg, nor in combination with carbamazepine, phenobarbital, phenytoin and valproate considerably impaired long-term memory in the passive avoidance task in mice.

Conclusions: Lack of any memory deficits in mice receiving dronedarone (50 mg/kg) alone and in combination with four classic antiepileptic drugs (carbamazepine, phenobarbital, phenytoin and valproate) may suggest that the treatment was safe enough to be recommended as therapeutic option for patients receiving these drugs and additionally suffering from atrial fibrillation and flutter.

TITLE: COMPARISON BETWEEN FUNDOSCOPY TRAINING USING AN INDIRECT OPHTALMOSCOPE SIMULATOR AND TRAINING DURING STANDARD PATIENT'S EXAMINATION.

AUTHOR: Tomasz Domański

CO-AUTHORS

SUPERVISOR: Prof. Robert Rejdak MD, PhD

AFFILIATION: Department of Didactics and Medical Simulation; Department of General Ophthalmology, Medical University of Lublin

Introduction: Indirect ophthalmoscopy is an examination procedure of posterior segment of the eye. Thus it allows visualization of peripheral retina, it found use particularly in retinopathy of prematurity and retinal detachment. Indirect ophthalmoscopy examination procedure is complex and requires control of hand and head positioning as well as coordination of patient's eye. Eyesi Indirect Ophthalmoscope (VRmagic, Manheim, Germany) is an augmented reality simulator designed for training of retinal examination which provides a highly realistic, three-dimensional view. Additionally it provides immediate and objective evaluation of both procedural and diagnostic skills.

Aim of study: Evaluation and comparison of the efficiency of both training with Eyesi Indirect simulator and training during standard patient's examination.

Material and methods: Two groups of ophthalmology residents (Department of General Ophthalmology, Medical University of Lublin) with no experience in indirect ophthalmoscopy were compared. At the baseline two groups investigated both real patient's and virtual retina. After evaluation of examined retinal area residents were asked to practise ophtalmoscopic examination using simulator (group 1) and during standard patient's investigation (group 2). Following the practise, the residents again studied both the patient's and virtual retina. Then examined retinal area was evaluated. At the end of the study residents were asked to fill in a questionnaire about the fidelity of simulation device. Statistical analysis: percentages of examined retina were compared with Kruskal Wallis and Dunn's multiple comparison test for post hoc (GraphPad Prism)

Results: No significant statistical differences ($P>0.05$) were observed between two groups both during baseline and final comparison as well as between simulated and real patient's examined retinal area. All residents evaluated virtual retina examination conditions as highly realistic..

Conclusions: Eyesi Indirect Ophthalmoscope is a useful tool in training of indirect funduscopy and is comparable to training during real patient's examination.

TITLE: THE INFLUENCE OF SB ON THE ANTICONVULSANT EFFECT OF PHENOBARBITAL IN PENTYLENETETRAZOL INDUCED SEIZURE TEST IN MICE.

AUTHOR: Agnieszka Konarzewska

CO-AUTHORS: Paweł Gryta, Barbara Miziak, Paulina Chmielewska, Urszula Grudzień

SUPERVISOR: Prof. Stanisław Jerzy Czuczwar MD, PhD

AFFILIATION: Student's Club of Pathophysiology, Medical University of Lublin

Introduction: SB-334867, an orexin antagonist, is a substance which has sedative and anorectic effects in animals. The mechanism of orexin antagonists action can be used in many possible clinical applications such as the treatment of drug addiction, insomnia, obesity and diabetes. These days phenobarbital is the most frequently prescribed antiepileptic drug, which also is recommended by the World Health Organization in developing countries. Moreover it is used when there is trouble sleeping, anxiety and drug withdrawal.

Aim of study: The target of this study was to rate the influence of SB 334867, an orexin antagonist, on the anticonvulsant effect of phenobarbital in the seizure test induced by pentyleneteterazol.

Material and methods: In the control group phenobarbital was administered intraperitoneally (i.p) alone in doses from 4.8 to 13.1 mg/kg. Mice in experimental group received SB 334867 in a dose of 2.5 mg/kg in combination with phenobarbital in ranged doses form 1.0 to 6.4 mg/kg i.p. The effectiveness was checked using pentylenetetrazol-induced seizure test. The method is based on administering subcutaneously pentylenetetrazol on dose of 100 mg/kg i.p (which results in clonic seizures in 97 per cent of the animals tested). Each of the mice was watched for 30 minutes starting from the injection. The proof of seizure activity is a whole body clonus that lasts at least 3 seconds, with concurrent loss of postural reflex.

Results: SB 334867 administered in dose of 2.5 mg/kg had an impact on the anticonvulsant activity of phenobarbital against pentylenetetrazol seizure test.

Conclusions: There is significance in the effect of SB 334867, an orexin antagonist, on the anticonvulsant effect of phenobarbital, verified in pentylenetetrazol-induced seizure test in mice.

TITLE: THE INFLUENCE OF CAFFEINE ADMINISTERED TO SWISS MICE IN THEIR PRE AND PERINATAL PERIOD ON EFFECT OF CARBAMAZEPINE ON THE MUSCULAR STRENGHT.

AUTHOR: Agnieszka Konarzewska

CO-AUTHORS: Iwona Radzik, Barbara Miziak, Piotr Gorlach, Katarzyna Ligęza

SUPERVISOR: Prof. Stanisław Jerzy Czuczwar MD, PhD

AFFILIATION: Student's Club of Pathophysiology, Medical University of Lublin

Introduction: Caffeine is a powerful stimulant and it can be used to improve physical strength and endurance. It is classified as a nootropic drug because it sensitizes neurons and provides mental stimulation. Certain drugs and supplements may interact with this substance. The experimental results confirm that caffeine intake in epileptic patients results in increased seizure frequency, what may lead to a conclusion that epileptic patients should limit their daily intake of this stimulant.

Aim of study: The target of this survey was to evaluate an impact of caffeine, administered to female mice during pregnancy and feeding period, on the disorders of muscular strength of mice cubs, which was checked with the muscular strength test following administration of carbamazepine.

Material and methods: The first group of pregnant female mice drunk water with caffeine in a concentration of 0.3 g/l during 3 weeks and 3 weeks when feeding the mice cubs. The second group was given tap water. The other raising conditions stayed the same in both groups. The control group, which consisted of 8 adult mice that were 8 weeks old, was not exposed to caffeine and the other 8 mice were. Following injection of carbamazepine (8.4 mg/kg in the control group and 11.6 mg/kg in the trial group – the doses of carbamazepine refer to its ED50 values against maximal electroshock-induced convulsions), disorders of muscle activity were examined using the chimney test and the neurotoxic potential of carbamazepine was described with the muscle strength in Newton scale.

Results: The muscular strength of mice which were not exposed to caffeine was 121.4 N and this value in mice exposed to caffeine was not significantly weakened reaching 113.4 N.

Conclusions: The muscle strength was a criterion for the evaluation of neurotoxicity. The neurotoxic action of carbamazepine was not modified with the exposure to caffeine of mice in their pre- and perinatal period.

TITLE: MULTIDRUG RESISTANT PATHOGENS INVOLVED IN COMMUNITY ACQUIRED INFECTIONS: A RETROSPECTIVE ANALYSIS OF THEIR PREVALENCE AND OCCURRENCE RATE.

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AFFILIATION: Department of Medical Microbiology, Medical University of Lublin

Introduction: Excessive and inappropriate use of antibiotics continues to generate resistance among pathogens. Multidrug resistant bacterial pathogens, until recently connected with hospital environment, are increasingly involved in community acquired infections According to the experts, antibiotic resistance has become one of the world's most pressing public health problems of 21st century.

Aim of study: The aim of the study was to retrospectively analyze the prevalence and occurrence rate of multidrug resistant bacteria associated with community acquired infections.

Material and methods: A total of 2097 bacterial isolates identified in the laboratory of the Department of Medical Microbiology, Medical University of Lublin in a period of 2014-2016 were subjected to the retrospective analysis. Bacterial strains were isolated from clinical materials (nose and throat swabs, skin lesions, urine) and identified to the species level by standard morphological and biochemical characteristics. The susceptibilities of bacterial isolates to antimicrobial agents were determined by the disc-diffusion method in accordance with EUCAST recommendations.

Results: In the analyzed period of time, 2097 bacterial strains were identified and 264 (12,6%) were classified as multidrug-resistant. The pathogens predominated in adult patients (n=168). Of the multidrug resistant bacteria, methicillin-resistant Staphylococci were the most commonly isolated (n=110; 41,6%), with MRSA (n=81; 30,7 %) and MRCNS (n=19; 7,2%) patterns respectively. The second most common resistance mechanism observed was the resistance to macrolides, linkozamides and streptogramins B (MLSB/MSB) with 146 cases (55,3%). Prevalence of constitutive MLSB, inducible MLSB and MSB resistance phenotypes were 68 (25,8%), 73 (27,7%) and 5 (1,9%) respectively. Of note, 34 strains of MRSA revealed iMLSB (7 strains) and cMLSB (17 strains) mechanisms additionally. The analysis revealed 30 strains of Haemophilus influenzae with BLNAR phenotype (β-lactamase negative, ampicilin resistant). Extended spectrum beta lactamase (ESBL) mechanism of resistance was detected in 8 strains of Gram (-) bacteria.

Conclusions: Among 3221 analyzed bacterial strains, 8.2% were identified as multidrug-resistant. S. aureus, H. influenzae, S. epidermidis isolates demonstrated multidrug resistance patterns with relatively high prevalence. Among ambulatory patients the most common multidrug-resistance mechanisms are: MRSA, followed by MLSB, BLNAR and ESBL.

TITLE: ANALYSIS OF THE PERCENTAGE OF MONOCYTE SUBPOPULATIONS DEPENDING ON THE EXPRESSION LEVEL OF CD38 AND ZAP-70 IN CLL CELLS

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CO-AUTHORS: Michał Zarobkiewicz

SUPERVISOR: assoc. prof. Agnieszka Bojarska-Junak MD, PhD

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Introduction: The presence or absence of immunoglobulin variable gene chain (IgVH) gene mutations is a very important predictor in patients with chronic lymphocytic leukemia. It reflects the intracellular expression of ZAP-70 protein in leukemia B cells and expression CD38 on leukemia cells. It is also of great practical importance in predicting the course of the disease. Monocytes are one of less recognised factors in the course of chronic lymphocytic leukemia. Currently only monocytosis at diagnosis is considered relevant prognostic and predicting factor.

Aim: The aim of the study was to assess the expression of CD38 and ZAP-70 on $CD5^+/CD19^+$ lymphocytes as well as assessment of monocyte subpopulations.

Material and methods: The expression of CD38 on CD5+/CD19+ lymphocytes was performed by incubation of whole blood specimen with monoclonal antibodies CD38 FITC, CD5 PE-Cy5 i CD19 PE. After incubation fixation and permeabilization was performed with Cytofix/Cytoperm and Perm/Wash, according to producers protocol. Intracellular expression of ZAP-70 in leukemic lymphocytes was performed with monoclonal antibody anti-ZAP-70. Monocyte subpopulations were distinguished with use of anti-CD14 and anti-CD16 monoclonal antibodies. Analysis was performed by flow cytometry with BD FACS Calibur.

Results: Monocytes subpopulations were analysed depending on the expression of ZAP-tp and CD38. Patient was considered ZAP-70 positive when more than 20% of CD5+/CD19+ lymphocytes were ZAP-70+. No statistically significant differences in monocytes subpopulations was observed between ZAP-70 positive and negative patients ($p>0,05$). Patient was considered CD38-positive when more than 30% of CD5+/CD19+ lymphocytes were CD38+. No differences in percentage of classical, intermediate and non-classical monocytes were observed between CD38 positive and negative patients.
Conclusions: No dependence was observed between monocytes subpopulations distribution and expression of CD38 and ZAP-70 on leukemic CD5+/CD19+ lymphocytes.