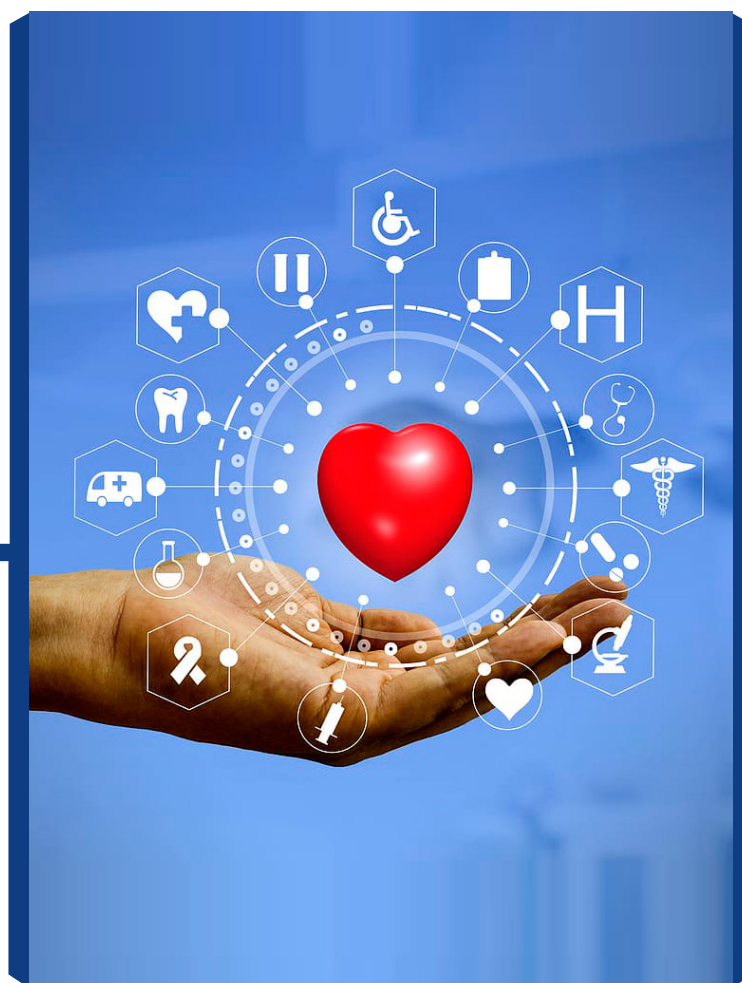




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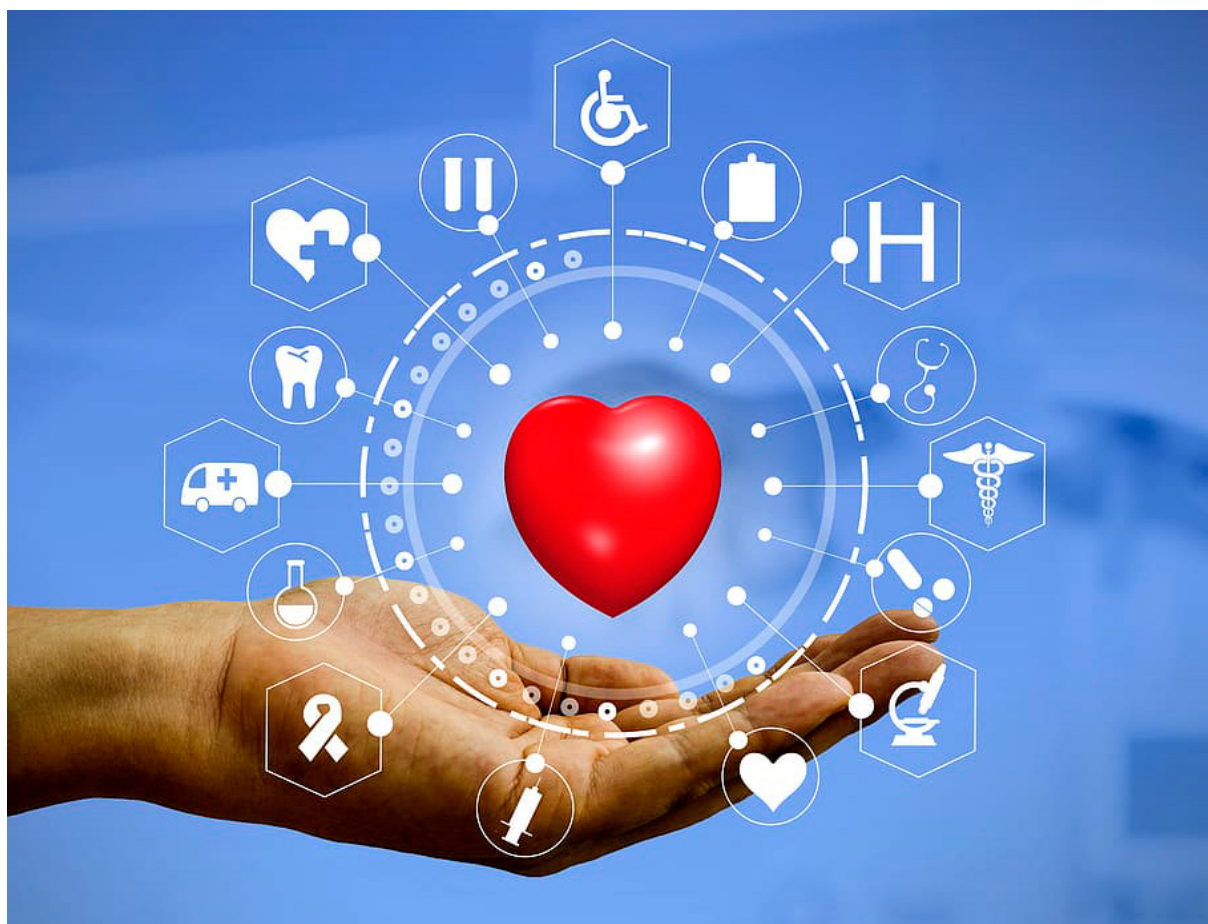
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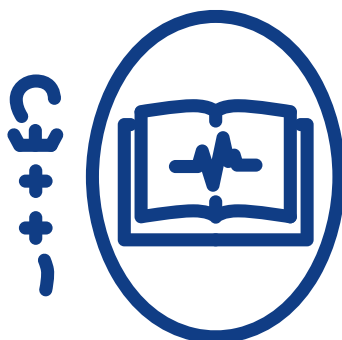
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Interdyscyplinarne spojrzenie  
na Nauki o Zdrowiu

**Gdańsk, 18-19 listopada 2021 r.**

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*brak abstraktu***Nurkowania zawodowe przy platformie wiertniczej**

Zdzisław Sicko

*brak abstraktu***Cukrzyca a nurkowanie rekreacyjne**

Edward Lizak

*brak abstraktu***Przypadki kliniczne choroby dekompresyjnej u nurków**

Ewa Lenkiewicz

*brak abstraktu*SESJA 5A  
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Piotr Robakowski

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Kaja Karwowska

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Paweł Kozak

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Jagoda Staruch

# piątek, 19 listopada 2021 r.

9:00-10:00

## SESJA 7. CHOROBY ZAKAŻNE

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*brak abstraktu*

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### o śp. prof. Piotrze Lass

**prof. dr hab. Przemysław Rutkowski,  
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dr hab. Agnieszka Zimmermann, prof. uczelni**

Prof. dr hab. Piotr Stanisław Lass urodził się 28 grudnia 1958 r. w Gdańsku. Był absolwentem III Liceum Ogólnokształcącego w rodzinnym mieście, tutaj także studiował medycynę w ówczesnej Akademii Medycznej. Tytuł zawodowy lekarza uzyskał w 1983 r. Bezpośrednio po studiach został zatrudniony w Akademii Medycznej w Gdańsku, przemianowanej w 2009 r. na Gdański Uniwersytet Medyczny. W Uczelni przepracował całe swoje zawodowe życie – 38 lat.

W 1990 r. uzyskał stopień doktora nauk medycznych w zakresie medycyny na podstawie rozprawy pt. *Zmiany reaktywności beta-adrenergicznej przepływu mózgowego w cukrzycy streptozotocynowej u szczurów*. Stopień doktora habilitowanego nauk medycznych otrzymał w 1999 r. w oparciu o rozprawę *Tomografia emisyjna pojedynczego fotonu jako metoda oceny zmian mózgowego przepływu krwi w wybranych układowych chorobach tkanki łącznej*. W wieku 46 lat, w 2004 r., otrzymał tytuł profesora nauk medycznych.

Prof. dr hab. Piotr Lass pracował w Zakładzie Medycyny Nuklearnej; od 1995 r. na stanowisku kierownika. Był powszechnie ceniony jako wybitny specjalista z zakresu medycyny nuklearnej, w swojej pracy specjalizował się w badaniach radioizotopowych ośrodkowego układu nerwowego. Odbił liczne staże naukowe i zawodowe, m.in. w: Danii, Katarze, Wielkiej Brytanii i we Włoszech.

Pełnił wiele ważnych funkcji w Uczelni macierzystej i poza nią: w latach 2002-2006 był prodziekanem na Wydziale Lekarskim, a w 2005 r. otrzymał od ówczesnego rektora AMG prof. dr hab. Romana Kaliszana misję utworzenia nowego Wydziału Nauk o Zdrowiu. Wypełnił ją w sposób wzorowy – Wydział Nauk o Zdrowiu rozpoczął swoją statutową działalność 1 września 2006 r. Prof. dr hab. Piotr Lass został pierwszym dziekanem tego Wydziału i pełnił tę funkcję przez 10 lat.

W 2016 r. został prodziekanem ds. nauki i rozwoju kadr, ponownie objął ten urząd w kadencji 2020-2024.



**Prof. Piotr Lass**

Przez wiele lat zasiadał również w Senacie AMG, później GUMed, przewodniczył lub był członkiem wielu komisji senackich, uczelnianych i wydziałowych. W latach 2016-2020 Profesor był członkiem Centralnej Komisji ds. Stopni i Tytułów, a w 2019 r. został wybrany do pierwszego składu nowo powstałej Rady Doskonałości Naukowej – był zastępcą przewodniczącego Zespołu Nauk Medycznych i Nauk o Zdrowiu.

Prof. dr hab. Piotr Lass był cenionym nauczycielem akademickim, opiekunem doktorantów, promotorem i recenzentem prac dyplomowych i doktorskich. Był również współzałożycielem międzyuczelnianego kierunku studiów Uniwersytetu Gdańskiego i Gdańskiego Uniwersytetu Medycznego – fizyka medyczna.

Należał do licznych towarzystw naukowych: Polskiego Towarzystwa Medycyny Nuklearnej (w latach 2002-2006 był przewodniczącym Zarządu PTMN), Polskiego Towarzystwa Fizyki Medycznej, British Society of Nuclear Medicine, Society of Nuclear Medicine, Komisji Neuroradiologii Komitetu Nauk Neurologicznych PAN, Komitetu Fizyki Medycznej, Radiobiologii i Displis absagnostyki Obrazowej PAN.

Za swoje zasługi został odznaczony Srebrnym i Złotym Krzyżem Zasługi (w 2011 r.), wyróżniony został także medalem *Zasłużonemu AMG* i Medalem Komisji Edukacji Narodowej.

Profesor Piotr Lass zostanie w pamięci wielu z nas jako wybitny nauczyciel, wspaniały i dobry człowiek, który w nietuzinkowy sposób zachęcał i motywował do pracy.

Cześć Jego Pamięci

## SESJA 1A. GASTROENTEROLOGIA DZIECIĘCA

**Hepatological problems in the SARS-CoV-2 pandemic era**

## Problemy hepatologiczne w erze pandemii SARS-CoV-2

**Irena Jankowska****Affiliation**

IP Children's Health Center Gastroenterology Clinic, Warsaw, Poland

**Abstract**

The pathomechanism of liver damage in COVID-19 is multifactorial. Increased activity of aminotransferases and  $\gamma$ -glutamyltranspeptidase (GGTP) may be associated with: hyperactive immune response and „cytokine storm”, systemic inflammatory reaction, hypoxia (in the course of pneumonia), hypovolemia, acute respiratory failure, septic shock, multiorgan failure. Disturbances in the intestinal flora (intestinal endotoxaemia) are considered. Concomitant use of antiviral drugs, antibiotics and high-doses of paracetamol may be potentially hepatotoxic in patients with COVID-19. There are also hypotheses that liver damage in the course of SARS-CoV-2 results from the expression of the ACE2 receptor in cholangiocytes. The overlap of the above-mentioned processes with the pre-existing chronic liver injury cannot be ruled out. The observations and available literature show that severe liver damage most often concerns severe cases of COVID-19, mainly in adults. In mild cases of COVID-19, liver damage is temporary and usually does not require treatment. The risk of a serious course of COVID-19 is increased by the coexistence of diseases such as cirrhosis, non-alcoholic fatty liver disease or the presence of hepatocellular carcinoma. In contrast, children with autoimmune hepatitis and organ recipients do not have a worse prognosis of COVID-19 than patients with chronic liver disease, despite the use of immunosuppressive therapy, although immunosuppressed patients may show general symptoms of infection (fever, diarrhea, fatigue) without symptoms of the respiratory system. At present, the challenge for the entire health care system in Poland is vaccination against COVID-19, which should be prioritized in all patients with chronic liver diseases and in organ recipients.

**Citation**

Jankowska I. Hepatological problems in the SARS-CoV-2 pandemic era. Eur J Transl Clin Med. 2021;4(Suppl.2):17.



## SESJA 1A. GASTROENTEROLOGIA DZIECIĘCA

## The role of vitamin D and vitamin D receptor gene polymorphisms in the course of inflammatory bowel disease in children

Rola witaminy D oraz polimorfizmów genu receptora witaminy D w przebiegu nieswoistego zapalenia jelit u dzieci

Karolina Śledzińska

**Affiliation**

Division of Internal and Pediatric Nursing, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

**Background:** The ethiopathogenesis of inflammatory bowel disease (IBD) is still unclear. Many studies suggest genetic component that may influence the incidence and the severity of the disease. Additionally, it has been found that low level of serum vitamin D may have an impact on the clinical course of the disease due to its effect on the immune system. **Methods:** We aimed to investigate correlation between incidence of vitamin D receptor (VDR) gene polymorphisms (*rs11568820*, *rs10735810*, *rs1544410*, *rs7975232* and *rs731236*, commonly described as *Cdx2*, *FokI*, *BsmI*, *Apal* and *TaqI*, respectively) and vitamin D concentration and clinical course of the IBD (disease activity, extent of the intestinal lesions). Data were obtained from 62 patients with IBD (34 with Crohn's disease, 27 with ulcerative colitis), aged 3 to 18 years, and compared with controls (N = 47), aged 8 to 18 years. **Results:** Although there was no difference in the incidence of individual genotypes between the study groups (IBD, C) in all polymorphisms examined, we described significant increase in the chance of developing IBD for heterozygotes of *Cdx2* (2.3-fold with  $p = 0.04$ , OR: 2.3, 95% CI 0.96-1.85) and *BsmI* (2.07-fold with  $p = 0.048$ , OR: 2.07, 95% CI 0.95-1.82) polymorphisms. Mean serum 25OHD level in IBD patients was significantly higher compared to controls (19.87 ng/ml vs 16.07 ng/ml;  $p = 0.03$ ). A significant correlation was found between vitamin D level and *TaqI* in IBD ( $p = 0.025$ ) and CD ( $p = 0.03$ ) patients as well as with *BsmI* polymorphism in IBD ( $p = 0.04$ ) and CD ( $p = 0.04$ ) patients. A significant correlation was described between the degree of disease activity and genotypes for *FokI* polymorphism in patients with UC ( $p = 0.027$ ) and between the category of endoscopic lesions and genotypes for *Cdx2* polymorphism also in patients with UC ( $p = 0.046$ ). **Conclusions:** Vitamin D supplementation should be recommended in both children with inflammatory bowel disease and in healthy peers. The results suggesting a correlation of VDR gene polymorphism with the chance of developing IBD and clinical course of the disease require further studies on a larger group of patients.

**Citation**

Śledzińska K. The role of vitamin D and vitamin D receptor gene polymorphisms in the course of inflammatory bowel disease in children. Eur J Transl Clin Med. 2021;4(Suppl.2):18.

**SESJA 1A. GASTROENTEROLOGIA DZIECIĘCA**

## **Children's Hepatology 2021 – reports from the 6th World Congress of Gastroenterology, Hepatology and Children's Nutrition WCPGHAN 2021**

Hepatologia dziecięca 2021 – doniesienia z 6. Światowego  
Kongresu Gastroenterologii, Hepatologii i Żywienia Dzieci  
WCPGHAN 2021

**Anna Liberek**

**Affiliation**

Pediatric Ward of the Saint Adalbert Hospital, Gdańsk, Poland,  
COPERNICUS PL; Department of General Nursing, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

The author discussed selected reports on hepatological problems, presented during the 6th World Congress of the of Pediatric Gastroenterology, Hepatology and Nutrition Society for Children (WCPGHAN), which took place in Vienna from 02-05.06.2021 and was also conducted on-line. One of the most interesting was the session "What's new in hepatology". The etiopathogenesis of biliary atresia (BA) the disease has not been elucidated. The potential role of genetic factors is emphasized, the influence of infectious agents, toxic, immune and vascular pathology. Interesting reports on BA were also presented by Ohlendorf et al. from Hannover Medical School in Germany, who analyzed the possible impact of thrombophilia on disease progression in children with BA and whether its presence is one of the factors shortening the survival time of these patients without the need for a liver transplant. Staufner from the University of Heidelberg, discussed the natural history, clinical signs, and laboratory abnormalities in 110 patients with NBAS (neuroblastoma-amplified sequence) mutations. Thompson's report on new drugs in cholestatic diseases was extremely interesting: studies on obeticholic acid (a farnesoid X receptor agonist) and maralixibat and odevisibate – new drugs currently in clinical trials in both Alagille syndrome (AGS) and PFIC. A fascinating lecture was delivered by Sabine Fuchs on organoids, that is 3D cultures that imitate a given organ. Organoids can be used for metabolic research and may have potential therapeutic use. The future may be to use organoids more to support liver function than to replace it. As usual, during the recent meetings of the European Society of Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN), a new disease entity that may be responsible for the occurrence of cholestasis in children has been presented. Stalke from Hannover Medical School presented information on a mutation in the KIF12 gene (kinesin family member 12), which may be responsible for familial liver disease with cholestasis. In summary, the Vienna congress was extremely interesting, presented high scientific level, and the exchange of experiences will result in improved care for children with liver problem.

**Citation**

Liberek A. Children's Hepatology 2021 – reports from the 6th World Congress of Gastroenterology, Hepatology and Children's Nutrition WCPGHAN 2021. 2021;4(Suppl.2):19.

**SESJA 1B. ZABURZENIA ENDOKRYNNE I METABOLICZNE****Exposure to endocrine disrupting compounds and their potential impact on the development of endocrine and metabolic disorders**

Ekspozycja na związki endokrynnie czynne i ich potencjalna rola w patogenezie zaburzeń endokrynnych oraz metabolicznych

**Dominik Rachoń**

**Affiliation**

Division of Clinical & Experimental Endocrinology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Endocrine-disrupting chemicals (EDCs) are environmental compounds (natural or synthetic), which impair the function of the endocrine system leading to adverse health outcomes. A group of chemicals with an endocrine-disrupting potential is very heterogeneous and includes many synthetic substances used in agriculture, industry as well as many consumer products. The most common include polychlorinated biphenyls (PCBs), polybrominated diethyl ethers (PBDEs), dioxins, plasticizers [bisphenol A (BPA) and phthalates], pesticides [methoxychlor, chlorpyrifos, dichlorodiphenyltrichloroethane (DDT)], fungicides (azole- fungicides, vinclozolin, prochloraz) and herbicides. Exposure to these compounds may take part in the pathogenesis of several endocrine and metabolic disorders e.g. the polycystic ovary syndrome (PCOS), which is the most common endocrinopathy among women in reproductive age. Exposure to several EDCs has also been shown to impair the thyroid function and fertility as well as to increase the risk of endocrine-dependent neoplasms such as breast, uterine and prostate cancer. Therefore, in order to reduce the risk of these health issues, first the public should be informed about the presence of EDCs in common consumer products and on methods of limiting exposure to these substances. Also, there is a great need of forming multidisciplinary research groups including analytical chemists, molecular biologists, endocrinologists, diabetologists, gynecologists, andrologists and oncologists in order to lobby the governmental health representatives and to introduce proper law regulations, which will ban the use of these substances.

**Citation**

Rachoń D. Exposure to endocrine disrupting compounds and their potential impact on the development of endocrine and metabolic disorders. Eur J Transl Clin Med. 2021;4(Suppl.2):20.

SESJA 1B. ZABURZENIA ENDOKRYNNE I METABOLICZNE

## Experiences of polycystic ovary syndrome (PCOS) diagnosis proces in a group of Polish women from the Pomeranian region

Doświadczenia z procesu diagnozy zespołu policystycznych jajników (PCOS) w grupie Polek z województwa pomorskiego

Edyta Dutkiewicz, Dominik Rachoń

### Affiliation

Division of Clinical & Experimental Endocrinology, Medical University of Gdańsk, Gdańsk, Poland

### Abstract

**Introduction:** The challenges of living with PCOS may be exacerbated by a long and problematic process of diagnosis or a lack of evidence-based, personally-relevant information. Therefore, the aim of our study was to evaluate the time to diagnosis, the number of health professionals seen and patients' information needs in a cohort of women with PCOS. **Methods:** A validated questionnaire was distributed via e-mail to 220 Polish women diagnosed with PCOS. **Results:** In total 100 women completed the questionnaire. Among almost 40% of the respondents the process of diagnosis lasted more than 24 months and in 50% of cases required seeing more than three health care professionals. Almost 65% of women pointed to the need for information on PCOS in the form of treatment standards and educational materials (16%). Only 5% of the respondents reported the need for a web page devoted to PCOS. Women were also asked about the burden of PCOS symptoms. More than 40% of the respondents highlighted weight gain (42%) and inability to lose weight (41%) as the most problematic. Fertility problems, depression and mood swings as well as hirsutism were noted by 36%, 34% and 33% of the respondents, respectively. Skin problems and acne were the least problematic (only for 26% of the respondents). **Conclusions:** These results suggest that the process of PCOS diagnosis is prolonged, requires seeing multiple health professionals and is not supported by reliable information and resources on long-term complications and therapeutic options.

### Citation

Dutkiewicz E, Rachoń D. Experiences of polycystic ovary syndrome (PCOS) diagnosis proces in a group of Polish women from the Pomeranian region. 2021;4(Suppl.2):21.



## SESJA 1B. ZABURZENIA ENDOKRYNNE I METABOLICZNE

**Serum bisphenol A analogues in women diagnosed with the polycystic ovary syndrome – is there an association?**

Osoczowe stężenia analogów bisfenolu A wśród kobiet z zespołem wielotorbielowatych jajników – czy istnieje między nimi związek?

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**Affiliation**

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**Abstract**

Due to the endocrine-disrupting effects of bisphenol A (BPA) several governmental authorities have banned its use. This led to the increase in the use of so-called BPA analogues, which have similar chemical properties but also possess mild estrogenic or anti-androgenic effect and thus, may cause fertility problems and sex-hormone-dependent endocrinopathies. Therefore, the aim of this study was to evaluate the potential association between the exposure to BPA and its two analogues (BPS and BPF) with the diagnosis of polycystic ovary syndrome (PCOS). 199 women diagnosed with PCOS and 158 healthy controls were studied. Serum concentrations of BPA, BPS and BPF were measured using high performance liquid chromatography method with tandem mass spectrometry. Serum concentrations of BPA and BPF did not differ significantly between PCOS and control subjects, when the variables were treated as continuous (GM: 0.46 ng/mL vs. 0.33 ng/mL,  $P = 0.41$  and 0.11 ng/mL vs. 0.09 ng/mL,  $P = 0.11$ , respectively) or categorical. In contrary, in women with PCOS serum BPS concentrations were significantly higher compared to the control subjects (GM: 0.14 ng/mL vs. 0.08 ng/mL,  $P = 0.02$ ). However, women whose serum BPS concentrations were in the first tertile were more likely to be diagnosed with PCOS (OR [95% CI]: 0.20 [0.05; 0.76],  $P = 0.02$ ). This association was also statistically significant when adjusted for age, education, BMI, smoking, income, and alcohol consumption (adjusted OR [95% CI]: 0.17 [0.03; 0.85],  $P = 0.03$ ). The results of this study point to the potential association between the exposure to BPS and the diagnosis of PCOS.

**Citation**

Majewska J, Rachoń D. Serum bisphenol A analogues in women diagnosed with the polycystic ovary syndrome – is there an association? Eur J Transl Clin Med. 2021;4(Suppl.2):22.



## SESJA 1B. ZABURZENIA ENDOKRYNNE I METABOLICZNE

**Effects of 6 months treatment with different combined oral contraceptives on the selected metabolic parameters and markers of low-grade inflammation in women with polycystic ovary syndrome**

Wpływ 6 miesięcznej terapii różnymi dwuskładnikowymi środkami antykoncepcyjnymi na wybrane parametry metaboliczne i markery zapalenia niskiego stopnia u kobiet z zespołem wielotorbielowatych jajników

**Paweł Denisiuk, Dominik Rachoń**

**Affiliation**

Division of Clinical & Experimental Endocrinology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

**Introduction:** Polycystic ovary syndrome (PCOS) apart from ovarian hyperandrogenism is also characterized by peripheral insulin resistance and hyperinsulinemia. The most common therapy of hyperandrogenism is combined oral contraceptive (COC) which apart from ethinylestradiol (EE) contain gestagens with anti-androgenic properties. These in turn may also have unfavorable metabolic effects. **Aim:** The aim of study was to evaluate the effects of different COC on the selected metabolic parameters, hormones, lipid concentrations and markers of low grade inflammation (LGI). **Subjects and methods:** Sixty-two women with PCOS (age range 17-34 years) were randomly assigned to treatment with four COC preparations containing 20-35 ug of EE and different types of progestins (2 mg of dienogest [DNG], 2 mg of cyproterone acetate [CPA], 250 ug of norgestimate [NGS] and 75 ug of gestodene [GSD]) for 6 months. Blood for the analyses was drawn at baseline and 6 months after intervention. **Results:** After 6 months the BMI, serum glucose, insulin and HOMA-IR did not change in neither groups. Waist circumference was significantly lower with EE-DNG ( $p < 0.05$ ). Serum androgens and FAI decreased significantly in all the study groups ( $p < 0.05$ ). Serum TSH concentrations increased only in the EE-CPA group, as well as serum PRL ( $p < 0.05$ ). Serum TCh increased significantly only in the EE-DNG and EE-CPA groups ( $p < 0.05$ ). HDL-Ch increased significantly in EE-DNG, EE-CPA and EE-GSD ( $p < 0.05$ ). Serum LDL-Ch concentrations decreased significantly only in the EE-DNG group ( $p = 0.011$ ). Serum TG increased significantly in all the groups, as well as serum CRP ( $p < 0.05$ ), whereas WBC increased significantly only in the EE-NGS and EE-GSD ( $p < 0.05$ ). **Conclusions:** Six months treatment with studied COC do not have any significant effects on serum insulin, glucose and HOMA-IR, but significantly increase serum TG, markers of LGI in women with PCOS. Some of them also increase serum HDL, TCh and reduce LDL-Ch.

**Citation**

Denisiuk P, Rachoń D. Effects of 6 months treatment with different combined oral contraceptives on the selected metabolic parameters and markers of low-grade inflammation in women with polycystic ovary syndrome. Eur J Transl Clin Med. 2021;4(Suppl.2):23.

**SESJA 1B. ZABURZENIA ENDOKRYNNE I METABOLICZNE****Myoinosytol and its use in the prevention and treatment of health disorders****Mioinozytol i jego zastosowanie w prewencji i leczeniu zaburzeń zdrowotnych****Patrycja Lademan, Natalia Szupryczyńska, Zdzisław Kochan****Affiliation**

Laboratory of Nutritional Biochemistry, Department of Clinical Nutrition, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Myoinositol (MI) is usually associated with the treatment of polycystic ovary syndrome (PCOS). However, this substance can be helpful in many other medical uses. The aim of the study was to characterize MI as a substance with an extremely wide therapeutic potential. MI is synthesized endogenously in the central nervous system but it can also be delivered via oral route. However, information about MI content in food or factors affecting its absorption and availability, is very limited. Therefore, the most reliable route of supply is supplementation in the recommended dose of 1g 2 times a day. In PCOS, MI may support the control of hormones, blood sugar and insulin levels. MI may improve the regularity of menstruation and ovulation (69.5%), as well as reduce insulin resistance. Oral MI supplementation initiated after diagnosis of gestational diabetes (GDM) improves glycemic control and reduces the need for additional drug therapy. MI is also used to prevent GDM though more extensive research on that subject is still ongoing. In diseases of the thyroid gland, MI exhibits a protective effect on thyrocytes, reduction the level of anti-TPO and anti-Tg antibodies, and balancing the levels of thyroid hormones. There are also some studies focused on the use of MI in the treatment of COVID-19. Therefore, MI is a substance that might make a significant contribution to improving health of many people.

**Citation**

Lademan P, Szupryczyńska N, Kochan Z. Myoinosytol and its use in the prevention and treatment of health disorders. Eur J Transl Clin Med. 2021;4(Suppl.2):24.

SESJA 1B. ZABURZENIA ENDOKRYNNE I METABOLICZNE

## Evaluation of dietary fiber intake in group of patients with irritable bowel syndrome and accompanying hypercholesterolemia

Ocena spożycia błonnika pokarmowego w grupie pacjentów z zespołem jelita drażliwego i współwystępującą hipercholesterolemią

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### Abstract

**Rationale:** Dietary fiber plays an important part in a diet for patients with familial hypercholesterolemia and irritable bowel syndrome (IBS). Dietary fiber improves the lipid profile in patients with hypercholesterolemia and it improves quality of life by reducing overall IBS symptoms. The aim of this study is to evaluate the dietary fiber intake in groups. **Methods:** Eighty-four patients of The National Centre for FH at University Clinical Center, Medical University of Gdańsk were included in the research. The study group consisted of 42 patients with hypercholesterolemia and IBS, and in the control group 42 patients diagnosed with hypercholesterolemia (without IBS). They were age-, sex-, and BMI- matched. A three-day diary was used to evaluate the intake of dietary fiber. Data were assessed in the diet calculator (Aliant) and the statistical analysis was performed using STATISTICA software. **Results:** There were no significant differences in dietary fiber intake between the study and control groups. The average consumption of dietary fiber was 20.14 g  $\pm$  7.06 g and 20.90 g  $\pm$  12.73 g in the study and the control groups, respectively. In the study group 74% patients and 69% patients in the control group did not meet the recommended dietary fiber intake of 25 g per day. **Conclusions:** Dietary fiber intake in the study group and control group was very similar and at the insufficient level. Dietary fiber might support treatment of this disease. Therefore, it is vital to educate the patients about the importance of consuming the right amount and source of dietary fiber.

### Citation

Cieplewska A, Szupryczyńska N, Stróżyk A, Chlebus K, Gruchała M, Kochan Z. Evaluation of dietary fiber intake in group of patients with irritable bowel syndrome and accompanying hypercholesterolemia. Eur J Transl Clin Med. 2021;4(Suppl.2):25.

**SESJA 2A. CHOROBY RZADKIE****Rare Diseases in Poland – new perspectives****Choroby Rzadkie w Polsce – nowe perspektywy****Jolanta Wierzba****Affiliation**

Department of Internal and Pediatric Nursing, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Rare diseases (RD, by definition occurring with a frequency of less than 1:2000 live births) are one of the greatest challenges of modern medicine. The low frequency of occurrence and their unique clinical course and a variety of symptoms are associated with many problems in the organization of health care and scientific research. Progress in the length and quality of life of people with RD has been made in the last years, but still only in about 10% of cases targeted treatment is promoted. Various efforts are made to improve the life situation of patients with RD, including legislative ones that take into account the variations in rare diseases. Organizations supporting patients and their families are established. There are a number of non-governmental organizations in Europe, including the European Reference Network (ERN) Orphanet, Eurordis, which have a large budget and influence the shaping of health policy in many countries. In Poland, it was only this year that the National Rare Disease Plan was adopted. Its implementation should contribute to the improvement of the situation of patients with RD and their families. One of the first Rare Diseases Centers in Poland was established at the Medical University of Gdańsk and the University Clinical Center, coordinating activities in the field of RD.

**Citation**

Wierzba J. Rare Diseases in Poland – new perspectives. Eur J Transl Clin Med. 2021;4(Suppl.2):26.

**SESJA 2A. CHOROBY RZADKIE**

## **Activity of Center of Rare Diseases as a model example of multi-specialist personalized care for patients with rare diseases**

Działalność Centrum Chorób Rzadkich jako modelowy przykład wysokospecjalistycznej zindywidualizowanej opieki nad pacjentem z chorobą rzadką

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**Affiliation**

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### **Abstract**

The Center of Rare Diseases (CCR) is a structure established at the Genetic Clinic and the Department of Paediatrics, Hematology and Oncology, but its operation includes cooperation with all clinical units of the University Clinical Center and the Medical University of Gdańsk. The main task of CCR is to provide multi-specialist personalized care for patients with rare diseases. A model example is the care of patients with Duchenne muscular dystrophy. Currently, over 100 boys are under the care of CCR. Every year, they are admitted for a 2-day hospitalization for examinations and consultations in accordance with international guidelines. In addition, we provide a patient registry and closely cooperate with patient and parental organizations, organize thematic workshops and conferences. We participate in clinical trials, both commercial and public, and we are co-authors of publications in national and foreign journals. Since last year, we have been co-creating a pilot program of multidisciplinary care for children with spina bifida, Williams syndrome, and other chromosomal aberrations. There are plans to develop a team of specialists who will care for the children with 22q11.2 microdeletion syndrome.

### **Citation**

Śledzińska K. Activity of Center of Rare Diseases as a model example of multi-specialist personalized care for patients with rare diseases. Eur J Transl Clin Med. 2021;4(Suppl.2):27.



## SESJA 2A. CHOROBY RZADKIE

**Factors affecting the quality and effectiveness of dietary treatment of patients with phenylketonuria**

Czynniki wpływające na jakość i skuteczność leczenia dietetycznego pacjentów z fenylketonurią

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**Abstract**

**Introduction:** Phenylketonuria (PKU) is the first inborn error of metabolism in which dietary therapy has been used successfully from many years. The key to reducing complications associated with PKU is metabolic control throughout life. **Aim:** The aim of the study was to determine the factors affecting the quality and effectiveness of therapy. **Material and methods:** The research was carried out in a group of 49 patients of the Outpatient Phenylketonuria Clinic at the University Clinical Center in Gdańsk. We conducted a diagnostic survey based on the author's questionnaire, the purpose of which was to get to know the lifestyle, attitude to the disease and the resulting restrictions also attempt to assess the quality of life of patients in the aspect of dietary regimen and determining the problems resulting from the use of dietary treatment. In all respondents, anthropometric measurements were taken, a psychological examination using an age-appropriate Wechsler's test. A retrospective analysis of medical records and phenylalanine (Phe) measurement results was made, which allowed to calculate the average levels from the year and three years before the test and to calculate the number of measurements made at that time. **Results:** The analysis of the data shows that the socio-economic conditions do not have a significant impact on diet compliance by patients with PKU. It has been shown that the number of measurements performed during the year is a sensitive indicator for the verification of dietary control in patients with PKU. A statistical relationship was found between the objective level of patients' knowledge about the disease and its treatment and the average concentrations of Phe. It is also worth noting that in the group of children the level of knowledge was statistically lower than in the adult group, which does not translate into average Phe concentrations, where the correlation is reversed.

**Citation**

Kołodziejska A. Factors affecting the quality and effectiveness of dietary treatment of patients with phenylketonuria. Eur J Transl Clin Med. 2021;4(Suppl.2):28.

## SESJA 2A. CHOROBY RZADKIE

## The nutritional status of boys with Duchenne muscular dystrophy

### Stan odżywienia chłopców z dystrofią mięśniową Duchenne'a

Sylwia Czaja-Stolc

#### Affiliation

Department of Clinical Nutrition and Dietetics, Medical University of Gdańsk, Gdańsk, Poland

#### Abstract

**Introduction:** Duchenne muscular dystrophy (DMD) is a disease that is associated with disorders of the nutritional status ranging from obesity to malnutrition. Excess body weight correlates with metabolic complications and rehabilitation difficulties in children with DMD. Malnutrition appears in the later stages of the disease and also has a negative impact on the patient's condition. Dietary interventions are not well documented. **Aim:** The aim of the study was to assess the nutritional status of boys with DMD. **Methods:** The study included 62 boys diagnosed with DMD, mean age of  $9.96 \pm 3.95$  years. Body weight and height were measured, BMI was calculated and the BMI percentile was read from the percentile grids. Body composition analysis (by bioimpedance method used Maltron Bio Scan 920) was performed. All patients were assessed using the Pediatric Nutrition Screening Tool (PNST). **Results:** In the study group 35.5% of boys were overweight or obese, based on the BMI percentile. The mean content of adipose tissue was  $24.3 \pm 13.4\%$ , and the lean body mass was  $75.2 \pm 14.2\%$ . Based on PNST, 12.9% of the boys were at risk of malnutrition. **Conclusions:** The main problem in the studied group of children with DMD was excess body weight. However, the PNST results indicate a risk of malnutrition despite excess body weight and adipose tissue. It is advisable to perform a nutritional assessment and diet analysis. Early education on the proper consumption of all nutrients is also recommended.

#### Citation

Czaja-Stolc S. The nutritional status of boys with Duchenne muscular dystrophy. Eur J Transl Clin Med. 2021;4(Suppl.2):29.



**SESJA 2A. CHOROBY RZADKIE**

## **The role of the Newborn Screening Program in the diagnosis of rare diseases**

### **Rola Programu Badań Przesiewowych Noworodków w diagnostyce chorób rzadkich**

**Joanna Jagłowska**

**Affiliation**

Department of Paediatrics, Haemathology & Oncology, Medical University of Gdańsk, Gdańsk, Poland

#### **Abstract**

Rare diseases are defined as conditions that present incidence rate of 5 in 10,000 European citizens and less than 1 in 200 000 Americans in the US. Most of them are genetically determined diseases, although there are also rare infectious, autoimmune and neoplastic diseases in which the genetic basis has not been proven. Although clinical symptoms of rare diseases may reveal in adulthood (e.g. Huntington's disease, Crohn's disease, Charcot-Marie-Tooth disease, amyotrophic lateral sclerosis), more than 50% of rare diseases occur in the pediatric population. Currently, more than 7,000 rare diseases have been described, the data on their diagnosis and treatment are often limited, and a small group of specialists is not conducive to effective diagnosis. Often, parents of young patients wait many years before the diagnosis is finally made. The Newborn Screening Program enables early detection of rare diseases, including the endocrine system (congenital hypothyroidism, congenital adrenal hyperplasia), inborn errors of metabolism (amino acid metabolism disorders, fatty acid oxidation disorders, selected urea cycle disorders), cystic fibrosis and spinal muscular atrophy. The criterion for selecting each disease entity for the screening program is not only the frequency of occurrence, but most of all the availability of therapeutic options. Only 5% of rare diseases are available for treatment, bearing in mind this fact, the importance of neonatal screening in the diagnosis of rare diseases should be emphasized.

#### **Citation**

Jagłowska J. The role of the Newborn Screening Program in the diagnosis of rare diseases. Eur J Transl Clin Med. 2021;4(Suppl.2):30.

**SESJA 2A. CHOROBY RZADKIE****New possibilities for diagnosing and monitoring pulmonary function in patients with Duchenne Muscular Dystrophy – EPULMoDMD project**

Nowe możliwości diagnostyki i monitorowania funkcji płuc u pacjentów z dystrofią mięśniową typu Duchenne – Projekt EPULMoDMD

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**Affiliation**

Department of Allergology and Pulmonology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Duchenne muscular dystrophy (DMD) is the most common and most severe, genetically determined, progressive, muscular dystrophy that begins in childhood. DMD is an irreversible disease in which dystrophin dysfunction in skeletal and multiple organ muscles is fatal before the age of 20 years. The most common cause of death is respiratory muscle failure. When the child loses the ability to walk independently (age 10-13 years), the lung function rapidly deteriorates, resulting in the gradual respiratory failure. The basic management includes the initiation of early monitoring of pulmonary functions by spirometry. Hospital spirometry tests are often hindered by difficulties which increase when the child loses independent walking. Additionally, spirometry was included in the procedures generating aerosols, i.e. high risk of SARS-CoV-2 virus transmission. Therefore, it has become necessary to look for other methods of measuring and monitoring pulmonary function in children with DMD. "E-monitoring of pulmonary function in patients with Duchenne Muscular Dystrophy" Project (acronym EPULMoDMD) aims to evaluate the possibility of measurement of pulmonary function at home using the AioCare system. The AioCare system consists of a small convenient device (home spirometer), AioCare application for patient and for doctor. The patient performs spirometry measurements at home. The test results are sent from the AioCare spirometer via the AioCare application for smartphones used by patients, to on-line AioCare Doctor panel and are available to the practitioner in the real time. Currently, 40 children with DMD are involved in the study: 20 with home e-spirometry monitoring and control group (20 children without e-monitoring). It is planned to enrolment 200 patients with DMD recruited from Rare Disease Centre in Gdańsk in years 2021-2025.

**Citation**

Wasilewska E. New possibilities for diagnosing and monitoring pulmonary function in patients with Duchenne Muscular Dystrophy – EPULMoDMD project. Eur J Transl Clin Med. 2021;4(Suppl.2):31.



## SESJA 2B. VARIA I

**Association of selected screening tests with sport-related lower limbs injuries in young football players**

Związek wybranych testów screeningowych z występowaniem sportowych urazów kończyn dolnych u młodych piłkarzy

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**Affiliations**

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<sup>2</sup>Centre of Rehabilitation and Training "Fizjo-world", Gdynia, Poland

**Abstract**

The incidence of injuries among young athletes is a widely-known concern. Identifying injury risk and monitoring injury is essential to improve prevention. This study aimed to investigate the association of the pre-season screening tests with the incidence of sports injuries in young football players. A prospective cohort study involved 39 young football players (age:  $13.4 \pm 0.9$  years) from a football club in Gdynia between February and June 2021. Screening tests took included an anthropometric examination, assessment of range of motion, dynamic balance, lower limb power, functional movement patterns and lower limb alignment kinematics in single leg movement tasks. Between February and June, 10 athletes were injured (Injury group), while 29 athletes formed the Non-injury group. Student's t-test and the Mann-Whitney U-test were used to examine the difference between the groups. The injury group showed statistically significant differences in age ( $p = 0.019$ ), height ( $p = 0.015$ ), Body Mass Index (BMI) ( $p = 0.044$ ), internal rotation range of motion of the hip (Hip IR ROM) ( $p = 0.023$ ), single leg hop for distance (SLHD) test (left limb,  $p = 0.033$  and right limb,  $p = 0.011$ ) than non-injury group. Other tests of range of motion, dynamic balance, lower limb power, functional movement patterns, lower limb kinematics and biological maturation were similar in both groups. The preliminary results of this study suggest that the anthropometric characteristics such as age, height, BMI and Hip IR ROM, and lower limb power in the SLHD test were associated with lower limb injuries in young football players.

**Citation**

Wilczyński B, Zorena K. The role of the Newborn Screening Program in the diagnosis of rare diseases. Eur J Transl Clin Med. 2021;4(Suppl.2):32.

**SESJA 2B. VARIA I**

## **Assessment of the occurrence of back pain in the Polish population during online work in time of pandemic**

Ocena występowania dolegliwości bólowych kręgosłupa wśród populacji polskiej podczas pracy zdalnej w czasie pandemii

**Alicja Stokowska<sup>1</sup>, Agnieszka Sobierajska-Rek<sup>2</sup>, Bartosz Wilczyński<sup>3</sup>, Katarzyna Zorena<sup>3</sup>**

### **Affiliations**

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<sup>3</sup>Department of Immunobiology and Environment Microbiology Medical University of Gdańsk, Gdańsk, Poland

### **Abstract**

Back pain became a serious civilization problem due to their frequency of occurrence. In 2016, it was estimated that about 70% of people under the age of 40 experienced pain in the lumbar spine, and about 50% – in the cervical region. The main aim of the study was to assess the occurrence of back pain in the Polish population during online work in the pandemic era. A secondary goal was to assess the relationship between the occurrence of back pain during remote work with the time spent working remotely and a subjective assessment of work ergonomics. Material and method. The study group included 93 people aged 21-64, who were obliged to work or study remotely during the pandemic. There were 78 women and 15 men among the respondents. The research tool was an anonymous questionnaire consisting of 32 questions. The questionnaire was disseminated via social media. The study was completely anonymous. The questionnaires were collected from January 2021 to April 2021. Results. As a result of starting remote work in connection with the COVID-19 pandemic, 76% of respondents developed back pain. On the other hand, no statistically significant relationships were found between the occurrence of back pain and having an appropriate workplace at home, the number of online work days per week, time spent working online within a year of subjective assessment of work ergonomics (sitting position) ( $p > 0.05$ ). Conclusions. Changing the mode of work to remote work contributed to the emergence of back pain among employees and students. Among all respondents, 76% reported the presence of back pain. Due to such a high scale of back pain symptoms after changing the working mode to online it is worth conducting further research.

### **Citation**

Stokowska A, Sobierajska-Rek A, Wilczyński B, Zorena K Assessment of the occurrence of back pain in the Polish population during remote work in time of pandemic. Eur J Transl Clin Med. 2021;4(Suppl.2):33.



## SESJA 2B. VARIA I

## Assessment of the effect of the Kinetic Control therapy concept on the control of the lumbar spine in people actively training rowing

Ocena wpływu terapii według koncepcji Kinetic Control na kontrolę odcinka lędźwiowego kręgosłupa u osób czynnie trenujących wioślarstwo

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**Affiliation**

Student Scientific Circle „Clinical Physiotherapy”, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

**Purpose:** Rowing is an Olympic sport. Recently it has become more and more popular due to the successes of the Polish national rowing team. The seating position of rowers during training or race often causes lower back pain. The Kinetic Control (KC) concept allows diagnose and improve control part of the body by the activation of proper muscles. The aim of the study was the assessment of lumbar spine movement control among people who train rowing. **Methods:** 28 people (9 women and 18 men) with an average of age 18 took part in the above-mentioned study. The participants were randomly assigned to study group (n = 10) or control group (n = 18). Both groups were examined by 12 tests of lumbar spine movement control according to KC (with and without stabilizer), assessment of muscles length and back pain questionnaire. Examination group was given 3 types of exercises, one stretching exercise, one abdominal muscle strengthening exercise and one exercise for improvement lumbar spine movement control. For 4 weeks these people were performed given exercises every day, twice per day, 20 repetitions. The control group did not perform any exercises. After this period the participations were again assessed by tests of lumbar spine movement control. **Results:** The performed tests showed lack of lumbar spine movement control among participations. People from the examined group obtained better results in test after training period compared to the initial examination. **Conclusions:** The therapy according to the KC concept is effective among rowers. The training plan should contain movement control exercises, what could be prevention of lumbar spine contusion.

**Citation**

Ławicki K. Assessment of the effect of the Kinetic Control therapy concept on the control of the lumbar spine in people actively training rowing. Eur J Transl Clin Med. 2021;4(Suppl.2):34.

**SESJA 2B. VARIA I**

## **Analgesia or oligoanalgesia – a comparison of implemented pain management in patients by emergency medical teams versus emergency department staff**

Analgezyja czy oligoanalgezyja – porównanie wdrożonego leczenia bólu u pacjentów przez zespoły ratownictwa medycznego a oddział ratunkowy

**Bartosz Pryba<sup>1</sup>, Wioletta Mędrzycka-Dąbrowska<sup>2</sup>**

### **Affiliations**

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<sup>2</sup>Department of Anaesthesiology Nursing & Intensive Care, Medical University of Gdańsk, Gdańsk, Poland

### **Abstract**

Despite significant medical advances, there is still a low availability of adequate pain treatment and insufficient knowledge of medical personnel about it. This contributes to significant delay and implementation of inadequate analgesia, which is defined by the word “oligoanalgesia”. The study, conducted between October and December 2020, analyzed pain treatment administered by the emergency medical services (EMS) and the Clinical Emergency Department (CED staff) of the University Clinical Center in Gdańsk. A total of 1333 medical records were analyzed, of which 539 cases were qualified for the study. In the ambulance, 62.52% of the patients received analgesia, while at the CED, 51% did. During triage at the CED, analgesia treatment was received by 2.41% of the patients. In most of the patients, the waiting time for the first dose of analgesia was more than 120 minutes from the time of registration. It was proved that the nature of pain and the type of injury suffered correlates with the choice of analgesic drugs. It was also proven that the analgesia used depends on the level of pain intensity, but the waiting time for analgesia does not depend on the triage priority given. Significant differences have been shown in the use of pain assessment scales between the EMS and the CED.

### **Citation**

Pryba B, Mędrzycka-Dąbrowska W. Analgesia or oligoanalgesia – a comparison of implemented pain management in patients by emergency medical teams versus emergency department. Eur J Transl Clin Med. 2021;4(Suppl.2):35.



## SESJA 2B. VARIA I

## Evaluation of self-triage skills among high school, technical school and non-medical university students

Ocena umiejętności wykonania self-triage'u przez uczniów szkół średnich oraz studentów kierunków niemedycznych

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**Abstract**

**Aim of the study:** Evaluation of self-triage knowledge among high school, technical school and university students in Poland. **Methodology:** 678 of answers on our self-prepared questionnaire were analyzed. One of its elements was a test (containing 20 questions) checking the level of participants' knowledge. There were 2 possible answers to each question (emergency department or ambulatory medical care e.g. GP). Participants were also asked about their sources of knowledge associated with medical subjects. **Results:** Mean result of the test was  $15,8 \pm 2,1$  (of 20 maximal points possible to collect). Errors were wrong ED indications more often than wrong primary care indications. 15,8% of participants declared emergency department attendance when there was no danger to their life nor health. Technical school students obtained significantly worst results than university students. The Internet and family were declared as source of medical-associated information by the highest number of participants. Choosing them were also associated with worst test results. **Conclusions:** Students tended to over-asses described condition in self-triage questions. Unnecessary ED attendance among young people are probably caused generally by their desire for faster diagnostic process. They do not understand competences and purposes of ambulatory care as well.

**Citation**

Miksiewicz M. Evaluation of self-triage skills among high school, technical school and non-medical university students. Eur J Transl Clin Med. 2021;4(Suppl.2):36.



## SESJA 2B. VARIA I

**Teleconsultations during the SARS-COV-2 pandemic**

## Teleporady w dobie pandemii SARS-COV-2

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Student Scientific Circle of Economics and Management in Healthcare

**Abstract**

In order to obtain an answer to the question whether telephone advice is as effective and satisfactory for the patient as stationary visits, and whether such a form may pose a threat to the patient's health, a pilot study was carried out to assess patient satisfaction related to the use of telephone or on-line consultation in primary health care. The survey was conducted using a proprietary questionnaire sent in electronic form. The questionnaire consisted of 22 questions. About 408 respondents participated in the study. The majority were women (80.15%). The average age was 34 years. The study showed that the main form of non-stationary contact during pandemic was via telephone call (98.04%). The most common reason for providing the service at GCP was to obtain a diagnosis / health assessment (73.77%). Suspected COVID-19 infection was the reason for visiting 19.36% of cases. More than half of the respondents (54.44%) negatively assessed the accessibility of the outpatient clinic, e.g. call not going through. Most of the respondents disagreed with the statement that non-stationary consultation is as effective in solving health problems as a personal visit to an outpatient clinic. Almost half of the respondents would not recommend non-stationary consultation to their relatives and friends. The results of this study were compiled and compared with the results of a similar study conducted by the Ministry of Health and the National Health Fund. In summary, telephone or online consultations play an important role in increasing access to primary care and in continuing treatment.

**Citation**

Ciećko W, Labunets K, Skwierawska J, Bandurska E. Teleconsultations during the SARS-COV-2 pandemic. Eur J Transl Clin Med. 2021;4(Suppl.2):37.



## SESJA 3A: ŻYWIENIE W ZDROWIU I CHOROBY

**Gut microbiome, diet and metabolic disorders**

## Mikrobiom jelit, dieta i zaburzenia metaboliczne

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**Abstract**

A concept that is currently attracting a lot of interest in the biological sciences and medicine is the microbiome. The human microbiome is made up of genes and genomes of saprophytic and commensal microorganisms and parasites inhabiting the human body, as well as their mutual dependencies and interactions. The microbiome creates a specific ecosystem located in specific places, such as the digestive tract and skin. The analysis and assessment of the interactions and relationships between the individual components of the human intestinal ecosystem is currently used as a tool to understand both the causes of the occurrence of many disease entities and the implementation of targeted treatment. The dominant groups of microorganisms inhabiting the digestive tract are *Firmicutes*, *Bacteroidetes*, *Proteobacteria*, *Actinobacteria* and *Fusobacteria*. The diversity of the intestinal microbiological composition depends, among others, on the pH of the environment, oxygen availability or diet. The increasing number of studies conducted allows us to better understand the influence of the intestinal microbiota on human metabolism and the coexistence of diseases such as obesity, type 2 diabetes, hypertension or lipid disorders. Nutritional modulation of the gut microbiota can affect the total energy intake, absorption, transport and storage of selected nutrients, which shapes the host's metabolism, ultimately promoting health or, conversely, promoting weight gain. A diet rich in fiber and polyphenols increases the diversity of the gut microbiota, which can be described as much healthier, while a high-fat Western diet greatly promotes dysbiosis. The key to health is the balance between symbiotic and potentially pathogenic microbial populations. Probiotic bacteria synthesize antibacterial, antimutagenic and immunosuppressive compounds, thus effectively protecting the body against pathogens, supporting the tightness of the intestinal barrier and treating metabolic disorders.

**Citation**

Janczy A. Gut microbiome, diet and metabolic disorders. Eur J Transl Clin Med. 2021;4(Suppl.2):38.



**SESJA 3A: ŻYWIENIE W ZDROWIU I CHOROBI**

## **Nutritional education in hypercholesterolemia**

### **Edukacja żywieniowa w hipercholesterolemii**

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Laboratory of Nutritional Biochemistry, Department of Clinical Nutrition, Medical University of Gdańsk, Gdańsk, Poland

#### **Abstract**

Hypercholesterolemia is one of the risk factors for cardiovascular disease (CVD), which is the most common cause of death in the world. Diet is important in prevention of CVD and appropriate nutritional education is an important factor supporting pharmacotherapy – especially in familial hypercholesterolemia. Dietary patterns appropriate in hypercholesterolemia are Mediterranean, vegetarian, and vegan diets. Among dietary recommendations it is important to limit saturated fatty acids and moderate cholesterol consumption. An adequate intake of omega-3 fatty acids and soluble fiber, as well as maintaining a low glycemic index and low glycemic load of the diet or the use of certain nutraceuticals (e.g. bergamot polyphenol extract, plant sterols, monacolin K) can support the improvement of the lipid profile parameters. Cooperation in an interdisciplinary team, including dietitian, is necessary to provide comprehensive care to a patient with hypercholesterolemia and help them to achieving treatment goals. One of the institutions that approached the problem of hypercholesterolemia interdisciplinarily is the National Center for Familial Hypercholesterolemia in Gdańsk.

#### **Citation**

Szupryczyńska N. Nutritional education in hypercholesterolemia. Eur J Transl Clin Med. 2021;4(Suppl.2):39.



## SESJA 3B: VARIA II

## Global Tobacco Industry Interference Index – Poland

## Ingerencje przemysłu tytoniowego w politykę zdrowotną w Polsce

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## Affiliations

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## Abstract

**Introduction:** Tobacco industry interference weakens public health policy across the globe. It is important to monitor tobacco industry activities to strengthen defence according to obligations expressed in Art 5.3 of the WHO Framework Convention of Tobacco Control expressed. **Aim of the study:** To assess the influence of tobacco industry companies on the government's public health policies in Poland. **Methods:** This study is an assessment of the intensity, frequency, and severity of incidents of tobacco industry interference reported in Poland between 1 January 2020 and 31 December 2020 and some examples from 2019, and the government's response to these incidents. The research is based on a questionnaire developed by SEATCA for its Tobacco Industry Interference Index (TIII) and scoring guidelines. To complete TIII of 20 indicators under seven key themes for Poland, five reviewers separately searched for evidence. This report was written by a scoping review of e.g.: the legal text, Polish media websites, Polish government and local government websites, also social media of tobacco industry companies. **Results:** Tobacco companies had an impact on the Act on excise duty and certain other acts (Ustawa o zmianie ustawy o podatku akcyzowym oraz niektórych innych ustaw), they took part in discussions and their proposals were taken into account. This act was signed by the President of Poland on 8 April 2021. Tobacco industry received a tax delay on e-cigarette liquids in 2020. The delay in introducing the tax coincided with the presidential election. The government cooperates with the tobacco industry in obtaining data concerning illegal tobacco trade. The tobacco industry contracts research companies to research this topic and passes the data on to the government. In 2020 few local governments and public schools started cooperation with British American Tobacco Polska or Imperial Tobacco Polska. The collaboration assumed patronage, providing a scholarship or donating funds. **Conclusions:** The results of the study suggest that tobacco companies have a considerable impact on public health policies. In Poland, which currently has no specific regulation constraining tobacco industry lobbying, implementation of the provisions of WHO FCTC Article 5.3 of is needed to limit interactions between the government and the tobacco industry, ensure transparency of such interactions and, foremost, denormalise tobacco industry interference with policymaking. Government should be independent from the tobacco industry when it comes to illegal tobacco trade analyses.

## Citation

Dera P, Głowacz K, Piotrowska L, Klimiuk K, Assunta M, Balwicki Ł. Global Tobacco Industry Interference Index – Poland. Eur J Transl Clin Med. 2021;4(Suppl.2):40.

SESJA 3B: VARIA II

## Experiences and educational preferences of medical students in the field of delivering bad news

Doświadczenia i preferencje edukacyjne studentów medycyny  
w zakresie przekazywania informacji o niekorzystnej diagnozie

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Kinga Paradowska, Jan Plenikowski, Julia Przeniosło, Agata Kotłowska**

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### Abstract

**Introduction:** Multiple research studies reveal that there is a significant lack of formal education in the field of delivering bad news (DBN). Medical students express the need for addressing this issue at the higher education level through the introduction of formal training whose aim would be to improve their DBN skills. **Aim:** This study aimed to determine the extent to which medical students feel prepared for DBN, and examine their needs and preferred learning methods in the area of DBN. **Methods:** This quantitative study conducted using the CAWI technique asked 321 medical students from 14 medical universities in Poland to self-assess their preparedness for breaking bad news to their future patients. **Results:** A total of 75.1% of participating medical students reported that they see themselves as inadequately prepared for DBN. Only 18.7% of respondents stated that they feel that they have the necessary skills for DBN. More than half of the participating students (63.6%) declared that they had already witnessed the situation in which the doctor delivered bad news to the patient. These students said they feel more prepared for DBN than students with no prior experience of this kind. As many as 86.3% of participants believe that more time should be dedicated to teaching breaking bad news during medical education. **Conclusions:** Understanding students' educational needs and preferences can help medical schools optimize their education programs for teaching DBN skills.

### Citation

Trzciński M, Lenkiewicz O, Lenkiewicz J, Sobczak K, Paradowska K, Plenikowski J, Przeniosło J, Kotłowska A. Experiences and educational preferences of medical students in the field of delivering bad news. Eur J Transl Clin Med. 2021;4(Suppl.2):41.



## SESJA 3B: VARIA II

## Obesity treatment barriers – comparative analysis of experiences and opinions of patients and medical staff

Bariery w leczeniu otyłości – analiza porównawcza doświadczeń oraz opinii pacjentów i personelu medycznego

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**Affiliation**

Division of Medical Sociology & Social Pathology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

**Introduction:** Numerous scientific reports indicate that many problems appear in the relations between medical staff and patients who suffer from obesity, among others, when it comes to the perception and judgement of patients who suffer from obesity due to their diseases. **Purpose of the paper:** The purpose of the paper is to compare the results of studies on the experiences and attitudes of patients who suffer from obesity and health professionals. In the study, we analysed patient comfort indicators, the quality of communication and support, the patients' social background and relations in medical institutions. **Materials and methods:** The analysis was based on quantitative research completed with the CAWI techniques. The first one was completed on a group of 621 respondents who suffered from obesity (BMI > 30.00). The second study involved 185 health professionals (physicians, nurses, midwives, physiotherapists and paramedics). **Results:** As many as 83% of the patients and 42% of the health professionals think that patients who suffer from obesity receive a worse treatment in medical facilities than patients with normal body mass. Over half of the studied health professionals provided a negative assessment of the access to professional nutritional services (61.4%), multi-speciality obesity treatment (55.4%) and medical institutions' equipment for diagnostics and care of patients with obesity (54.9%) within the National Health Fund. As many as 86% of patients with obesity reported situations in which medical staff ignored their ailments at least once and justified it with their obesity. Only 48% of the studied medical staff considered such behaviour as patient discrimination. **Conclusions:** Barriers which hinder access to effective obesity treatment are not just about deficiencies in equipment or reimbursed multi-specialist care but also lack of the knowledge of treatment standards and medical staff's preparation to diagnose a patient's obesity and manage it.

**Citation**

Sobczak K, Leoniuk K. Barriers in treatment – comparative analysis of experience and opinions of patients and medical staff. Eur J Transl Clin Med. 2021;4(Suppl.2):42.

**SESJA 3B: VARIA II**

## **Patients' attitude to selected changes in the health services caused by the SARS-Cov-2 pandemic.**

### **Preliminary report**

Stosunek pacjentów do wybranych zmian w obszarach świadczeń medycznych spowodowanych pandemią SARS-Cov-2.  
Doniesienia wstępne

**Ewa Otręba<sup>1</sup>, Anna Dąbrowska<sup>1</sup>, Julia Świechowska<sup>1</sup>, Paulina Dąbrowska<sup>1</sup>,  
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#### **Abstract**

The SARS-Cov-2 pandemic caused many changes in the area of the health care system. Social distancing had a significant impact on the organization and course of doctor's appointments, increasingly carried out in the form of tele-consultations. The purpose of the study was to analyze the impact of the SARS-Cov-2 pandemic on the doctor-patient relationship in the context of the organization and implementation of tele-medical consultations. The quantitative research was conducted with the use of the proprietary research tool. The data was obtained using the CAWI technique. The study included 722 adult patients from all over the country who consulted their general practitioners from 20<sup>th</sup> March 2020 to 21<sup>st</sup> September 2021. Comparing the experiences before and during the pandemic, the patients revealed difficulties in access to general practitioners. Most of the respondents (87%) had a telephone consultation. 56 percent of respondents claimed that the waiting time for an appointment was longer. According to 42% of patients, the quality of communication with a doctor deteriorated. Half of the patients (50.3%) admitted that they had not been informed about the possibility of choosing the form of visit. Almost 85% of people preferred direct contact with a doctor, although 72% would like the telephone consultation to be available as a form of medical advice after the pandemic ends. Identification and recognition of difficulties related to limitations caused by SARS-Cov-2 may contribute to the improvement of the health care system, with particular emphasis on the organization of tele-medical consultations.

#### **Citation**

Otręba E, Dąbrowska A, Świechowska J, Dąbrowska P, Dorobek M, Sobczak K. Patients' attitude to selected changes in the health services caused by the SARS-Cov-2 pandemic. Preliminary report. Eur J Transl Clin Med. 2021;4(Suppl.2):43.



## SESJA 3B: VARIA II

## From medicine to astrology. Popularization of knowledge in the calendars of Royal Prussia

### Od medycyny do astrologii. Popularyzacja wiedzy na łamach kalendarzy Prus Królewskich

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#### Abstract

Printed calendars were one of the most popular types of printed publications of the early modern period. They were the source of and a tool for shaping people's understanding of three main areas:

- a) knowledge of the sky (astronomy, astrology and meteorology);
- b) knowledge about health and diseases (medicine);
- c) knowledge of the past (history).

The calendars of the early modern period boasted a peculiar combination of astrology and medicine, sometimes also called astromedicine. It was the belief that one of the causes of human ailments are unfavorable arrangements of celestial bodies in the sky, causing particular diseases, epidemics, the appearance of harmful substances in the human body, etc. It was also believed that the celestial signs caused certain events in political and social life, such as tumult, wars, or religious disagreements. Therefore, in the calendars, ancient systems of celestial bodies were often referred to, linking them with the events of that time. On this basis, attempts were made to predict what will happen in the future when the firmament looks the same. For the above reasons, this is an interesting source, showing intellectual life in the early modern era, the level of applied knowledge and the information used at that time.

#### Citation

Paluchowski P From medicine to astrology. Popularization of knowledge in the calendars of Royal Prussia Eur J Transl Clin Med. 2021;4(Suppl.2):44.





**SESJA 3B: VARIA II**

## **Rudolph Virchow – creator of modern pathology, in 200<sup>th</sup> anniversary of birth**

Rudolph Virchow – twórca patomorfologii, w 200 rocznicę urodzin

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**Affiliation**

Division of Pathology and Neuropathology, Medical University of Gdańsk, Gdańsk, Poland

### **Abstract**

Rudolf Ludwig Karl Virchow was born in October 13<sup>th</sup>, 1821, in Schivelbein (today Swidwin), Pomerania, Prussia (now Poland). He graduated the gymnasium in Köslin (today Koszalin, Poland) in 1839 to continue education in Prussian Military Academy in Berlin. After graduation, he became assistant to Johannes Müller. Soon after, he was admitted at Berlin Charité Hospital. There Virchow assisted the Prosector Robert Froriep, from whom he learned pathology and microscopy. In 1849 he accepted the chair of Pathological Anatomy at Würzburg University. In 1856, Virchow returned to Berlin Charité Hospital, where he became Director and stayed for 20 years – working, teaching, investigating, writing and of course publishing. His input in the development of pathology is immense. Every resident learns about the Virchow's autopsy technique. Discussing the origin of malignancies we remember his theory which became the foundation of cellular conception of pathology – *Omnis cellula e cellula* – all cells come from other cells. The Virchow's triad, so well known to everyone studying the venous thrombosis. And so many other aspects. But apart from medicine, Virchow was also social reformist, a politician and a member of Prussian Parliament. His interest in history and anthropology resulted not only in historical papers published, but also real life friendship with Heinrich Schliemann, the discoverer of Troy. Virchow also funded one of the largest pathology museums at the Charite Hospital. This year we celebrate the 200th anniversary of his birth and it cannot be omitted.

### **Citation**

Gulczyński J. Rudolph Virchow – creator of modern pathology, in 200<sup>th</sup> anniversary of birth. Eur J Transl Clin Med. 2021;4(Suppl.2):45.

**SESJA 5A: RATOWNICTWO MEDYCZNE****AED in the workplace – a good direction or an unnecessary device?**

AED w miejscu pracy – dobry kierunek czy zbędne urządzenie?

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**Affiliation**

Department of Medical Rescue, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Immediate resuscitation is required for any sudden cardiac arrest. To improve the survival of the patient, a device to be operated by witnesses of the event – automated external defibrillator (AED) – has been produced. The aim of this study is location, to analyze the way and correctness of use of automated external defibrillators placed at the workplace in Polish cities. The study period was 2010-2020. The locations where the AED was located and where the device was used were analyzed.

**Citation**

Żuratyński P. AED in the workplace – a good direction or an unnecessary device? Eur J Transl Clin Med. 2021;4(Suppl.2):46.



**SESJA 5A: RATOWNICTWO MEDYCZNE**

## **Pre-hospital management in hypothermia**

### **Postępowanie przedszpitalne w hipotermii**

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Department of Medical Rescue, Medical University of Gdańsk, Gdańsk, Poland

#### **Abstract**

Along with the decrease in core body temperature, a number of unfavorable changes in the functioning of vital organs occur. The first symptoms of hypothermia are observed at 35°C, and already at 28°C the risk of cardiac arrest increases dramatically. The pre-hospital stage is a very important period in the treatment of hypothermia. Possible quick diagnosis of life-threatening conditions, thermal insulation, starting heating and modification of standard protocols, significantly improve the prognosis of people exposed to cold. Therefore, it seems reasonable to ask whether the Medical Rescue Teams are prepared to help hypothermia victims? Is it possible to implement proper protection and heating techniques already at the initial stage of treatment? The aim of this study is to briefly reflect on the differences between theoretical assumptions and the real possibilities of pre-hospital treatment of patients with hypothermia.

#### **Citation**

Krzyżanowski K. Pre-hospital management in hypothermia. Eur J Transl Clin Med. 2021;4(Suppl.2):47.



## SESJA 5A: RATOWNICTWO MEDYCZNE

**Management of tachyarrhythmias and bradyarrhythmias  
– changes and novelties in the ERC 2021 guidelines**

Postępowanie w tachy i bradyarytmiiach – zmiany i nowości  
w wytycznych ERC 2021

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**Affiliation**

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<sup>2</sup> Provincial Emergency Medical Service in Katowice, Poland

**Abstract**

With the progressive aging of the population, the number of patients suffering from cardiovascular diseases is increasing. Cardiovascular diseases therefore account for a significant portion of reasons for the calls handled by the medical rescue teams in Poland. Recognition of medical emergencies, especially cardiac emergencies, and carrying out medical rescue operations are the basic elements of the work of National Medical Rescue Service personnel. The aim of this paper is to identify changes and novelties introduced in the tachycardia and bradycardia management regimens published in the European Resuscitation Council 2021 guidelines. An analysis of the algorithms in tachy and bradyarrhythmias as defined by the 2021 ERC was used to write this paper. In addition, a comparative analysis of identical management regimens published in 2005, 2010, and 2015 was performed to distinguish the evolution of changes to the recommendations in older versions of the guidelines.

**Citation**

Kuczera P. Management of tachyarrhythmias and bradyarrhythmias – changes and novelties in the ERC 2021 guidelines. Eur J Transl Clin Med. 2021;4(Suppl.2):48.

SESJA 5B: VARIA III

## Analysis of pharmacotherapy in a randomised group of 3 000 Poles over 65 years old

Analiza farmakoterapii w randomizowanej grupie 3 000 Polaków powyżej 65. roku życia

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**Affiliation**

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### Abstract

**Introduction:** Pharmacological therapy in older adults is particularly challenging due to changes in metabolism, multimorbidity and their growing interest in non-prescription drugs. **Objectives:** The aim of this study is to provide up-to-date data on pharmacotherapy in the geriatric population in Poland and to identify factors predisposing to polypharmacy. **Patients and methods:** All medications (prescription and non-prescription drugs) used at least once in two weeks preceding the study were analysed in a randomised group of 3014 home-dwelling people > 65 years old, taking into account following variables: age, sex, place of residence, marital status, education, multimorbidity. Qualitative analysis was based on the anatomical-therapeutic-chemical classification (ATC) and on assessing frequency of combined preparations. Post-stratification was used to outweigh the sample structure against the Polish population in 2017. **Results:** No consumption of any preparations was declared by 9.3% of people. The mean number of medications was 5.01 (4.87-5.15) and median value was 5 (3-7). Polypharmacy ( $\geq 5$  drugs) was found in 53.5%, while excessive polypharmacy ( $\geq 10$  drugs) in 8.7% of all. The most predisposing factor to polypharmacotherapy was multimorbidity. Percentage of single pill combinations was relatively high (27,2%). The most commonly used groups of drugs were cardiovascular, hematopoietic and gastrointestinal medications. **Conclusions:** In the face of high incidence of polypharmacy, it is necessary to draw attention to it and make a joint effort to improve quality of pharmacotherapy. There is also need for further detailed analyses of medical indications for used drugs, which would illustrate the clinical context of polypharmacy among the elderly.

### Citation

Bleszyńska-Marunowska E. Analysis of pharmacotherapy in a randomised group of 3 000 Poles over 65 years old. Eur J Transl Clin Med. 2021;4(Suppl.2):49.



## SESJA 5B: VARIA III

## The influence of manual lymphatic drainage on biochemical parameters and homeostatic model assessment of insulin resistance (HOMA-IR) in patients with abnormal bodyweight – new therapeutic approach

Wpływ manualnego drenażu limfatycznego na parametry biochemiczne oraz wskaźnik insulinooporności (HOMA-IR) u pacjentów z nieprawidłową masą ciała – nowe podejście terapeutyczne

Klaudia Antoniak<sup>1</sup>, Marta Jaskulak<sup>1</sup>, Rita Hansdorfer-Korzon<sup>2</sup>, Katarzyna Zorena<sup>1</sup>

### Affiliations

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<sup>2</sup> Division of Physical Therapy, Medical University of Gdańsk, Gdańsk, Poland

### Abstract

**Aim:** The aim of the study was to assess the insulin-resistance indicator HOMA-IR, parameters of carbohydrate metabolism and the concentration of high-sensitivity C-reactive protein (hsCRP) before and after the manual lymphatic drainage (MLD) therapy. **Material and methods:** The study involved 26 patients (20 women and 6 men), aged 21-55. The patients were divided in 3 groups. Group I – patients with normal bodyweight (n = 10), group II – overweight patients (n=9), group III – obese patients (n = 7). The patients were subjected to the medical, physiotherapeutic interview and examination, biochemical tests. Before and after the MLD therapy, in each of the subjects, there was body mass index (BMI), waist-to-hip ratio and body composition analysis measured. Each patient underwent 10 therapies of MLD, 3 times per week for 30 minutes. Each patient's hsCRP, glycated hemoglobin (HbA1c), C-peptide, insulin, fasting glucose and 120', HOMA-IR was tested. **Results:** Group I showed a decrease in HOMA-IR indicator (p = 0.1), C-Peptide concentration (p = 0,21) and insulin (p = 0.12), while there was no change in the concentration of glucose, HbA1c and hsCRP. Group II demonstrated a decrease in HOMA-IR (p = 0.48) indicator, C-peptide concentration (p = 0.39), insulin (p = 0.49), hsCRP (p < 0.05) and glucose 120'' (p < 0.05) while no change in the concentration of fasting glucose and HbA1c. Group III showed a decrease in the HOMA-IR indicator (p = 0.58), HbA1c (p = 0,013) while there was no change in the average concentration of glucose, insulin and hsCRP. **Conclusion:** Our results suggest the MLD can have a positive influence on the chosen biochemical parameters of the subjects. However, the most effective results are observed in the overweight patients.

### Citation

Antoniak K, Jaskulak M, Hansdorfer-Korzon R, Zorena K. The influence of manual lymphatic drainage on biochemical parameters and homeostatic model assessment of insulin resistance (HOMA-IR) in patients with abnormal bodyweight- new therapeutic approach. Eur J Transl Clin Med. 2021;4(Suppl.2):50.

## SESJA 5B: VARIA III

## Assessment of lead and cadmium levels in the blood serum of patients with age-related macular degeneration

Ocena poziomu ołowiu oraz kadmu w surowicy krwi u pacjentów z zwyrodnieniem plamki związanego z wiekiem

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### Abstract

**Introduction:** Age-related macular degeneration (AMD) causes severe damage to the central vision. The cause of macular degeneration is not fully understood. Recent research indicates that the development of AMD may be related to genetic, immunological and environmental factors. **Aim:** To assess the levels of cadmium and lead in the serum of patients suffering from age-related macular degeneration. **Material and methods:** Fifty patients diagnosed with early AMD, aged 61-92 years, and 16 healthy subjects, with no eye fundus changes, were recruited for the study. A total of 132 eyes were included in the study. Patients were divided into groups according to the 4-grade AREDS classification, including AREDS II- 37 eyes, AREDS III- 33 eyes, AREDS IV- 30 eyes, control group n = 32 eyes. Biochemical and ophthalmological examinations were carried out. The level of heavy metals, including cadmium and lead, in the blood serum of the studied patients was assessed. The assessment of heavy metals in the blood serum of patients suffering from age-related macular degeneration was carried out using inductively coupled plasma mass spectrometry (ICP-MS) at the Metal Analysis Laboratory at the Institute of Occupational Medicine. J. Nofer in Łódź. **Results:** The study showed a significantly higher lead levels in patients with AMD in the AREDS 2, AREDS 3 and AREDS4 groups compared to the control group,  $p = 0.01$ . Moreover, in patients with advanced form of AMD according to AREDS, along with an increase in serum lead levels, it was found that the thickness of the central retina decreased, which may be related to the formation of thinning of the neuro-sensory retina. However, no statistically significant differences were found in the level of cadmium in the blood serum in the examined patients with AMD in the AREDS 2, AREDS 3 and AREDS4 groups compared to the control group ( $p = ns$ ). **Conclusion:** The higher lead level in the group of patients with more advanced AMD according to AREDS may influence faster progression and course of the disease, and possibly a worse response to treatment.

### Citation

Murawska A, Wąż P, Zorena K. Assessment of lead and cadmium levels in the blood serum of patients with age-related macular degeneration. Eur J Transl Clin Med. 2021;4(Suppl.2):51.



## SESJA 5B: VARIA III

## The safety of supplementation with products containing *Beta vulgaris* L.

### Bezpieczeństwo suplementacji produktami zawierającymi *Beta vulgaris* L.

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#### Abstract

Dietary supplements containing beetroot (*Beta vulgaris* L.) have become a popular alternative to raw vegetables due to the form enabling relatively easy dosing and a concentrated formula. *Beta vulgaris* L. is a rich source of health-promoting substances, but as a root vegetable, it can accumulate nitrates, which consumption is limited by appropriate regulations. The study aimed to determine the content of nitrates (III) and (V) in 28 dietary supplements available on the Polish market in the form of tablets, capsules, or powders, using the spectrophotometric method according to ISO 6635-1984 (E). The method was validated, and the obtained parameters were highly satisfying. The health risk for the consumer related to the consumption of the analyzed products, following the manufacturer's recommendations, was estimated. The acceptable daily intake of nitrates (III) (ADI = 0.07 mg/kg BW/day) and nitrates (V) (ADI = 3.07 mg/kg BW/day) assuming the limit values for an adult human weighing 70 kg was applied. The contents of NO<sup>2</sup>- and NO<sup>3</sup>- were determined in 25 analyzed products within the range of 0.56-6.4 µg/g (0.28-64.5 µg/dos.) and 0.50-15.2 mg/g (0.40-131 mg/dos.), respectively. The realization of ADI for NO<sub>2</sub>- ranged from 0.007 to 1.3% and from 0.31 to 50.6% for NO<sub>3</sub>-. Although the limit values were not exceeded for any products, other sources of dietary nitrates should also be taken into account when estimating total exposure to these substances. The content of nitrates should be controlled in supplements as well as other food products to ensure the safety of consumers.

#### Citation

Brzezińska-Rojek J, Malinowska P, Prokopowicz M, Grembecka M. The safety of supplementation with products containing *Beta vulgaris* L. Eur J Transl Clin Med. 2021;4(Suppl.2):52.



## SESJA 5B: VARIA III

## Characterization of selected bacteria strains isolated from microbiota of edible cyanobacteria *Arthrospira* and determination of their probiotic potential

Charakterystyka wybranych szczepów bakterii wyizolowanych z mikrobioty jadalnych cyanobakterii *Arthrospira* i określenie ich potencjału probiotycznego

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### Abstract

Research on edible cyanobacteria of the genus *Arthrospira*, whose dried biomass is available as a dietary supplement called "Spirulina" focuses on its nutritional properties. These cyanobacteria provide many vitamins, macro- and microelements, and are a valuable source of protein. Thanks to the content of bioactive substances, such as calcium spirulan, *Arthrospira* biomass is used in the regeneration of the body after therapies. It exhibits anticancer, immunomodulatory, antioxidant and antiviral effects. It has beneficial influence on reduction of hypertension and blood glucose level. The aims of this project were the isolation and genetic identification of strains coexisting with *Arthrospira* and safety analysis in terms of resistance to antibiotics and the ability to hemolyze erythrocytes. The goal of this work lead to demonstrating probiotic potential of bacteria coexisting with edible cyanobacteria. New bacterial strains were isolated from five laboratory cultures of cyanobacteria. Species identification was initiated. Genomic DNA was isolated and ERIC-PCR was performed to determine genetic profiles. The strains representing fingerprint groups were identified based on the gene encoding the 16S rRNA sequence. The bacterial isolates were classified into four families: *Halomonadaceae*, *Cyclobacteriaceae*, *Rhodobacteriaceae* and *Alcanivoracaceae*. Tests were carried out to determine the physiological and biochemical characteristics of the isolates. Their enzymatic activity, ability to metabolize carbon sources and survival in 40% glycerol at -80°C were investigated. The growth on bleeding medium, BAT, CLED, R2 and CHROMagars was verified. The pellet of *Arthrospira* biomass has also been shown to have antimicrobial properties against *E. coli*, *S. aureus* and *P. aeruginosa*.

### Citation

Krzesińska A, Waleron K. Characterization of selected bacteria strains isolated from microbiota of edible cyanobacteria *Arthrospira* and determination of their probiotic potential. Eur J Transl Clin Med. 2021;4(Suppl.2):53.



## SESJA 5B: VARIA III

**Effect of ultra-processed food on inducing obesity**

## Wpływ wysokoprzetworzonej żywności na powstawanie otyłości

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**Abstract**

The number of people suffering from obesity in the world is constantly growing. To prevent the further development of the obesity epidemic, a number of preventive measures should be taken, among which the most effective method is the development of proper eating habits. The aim of the study is to show the effects of diet with ultra-processed food (UPF) on the development of obesity. UPF is a term describing food products that are made through a complex process of technological processing by adding many substances such as oils, sugar, salt, dyes, and food additives. The products obtained in this way are ready for immediate preparation, are highly palatable and have a long shelf life. It is believed that the elimination of UPF from the diet has many advantages, the most important of which is the improvement of the sensitivity of the secretion of the hormones of hunger and satiety. In this aspect, the focus was on the importance of the role of protein, the degree of food fragmentation and the secretion of ghrelin and leptin hormones. It also suggested that diets high in UPF are more difficult to balance to ensure the correct ratios of dietary macronutrients as well as fiber, vitamins, and minerals. This means that when the body is exposed to a diet consisting of UPF, it does not nourish it properly, which carries a risk of health disorders. Summing up, UPF has an indirect harmful effect on human health, because it is conducive to obesity.

**Citation**

Szymanowicz J, Szupryczyńska N, Kochan Z. Effect of ultra processed food on inducing obesity. Eur J Transl Clin Med. 2021;4(Suppl.2):54.



**SESJA 6A. MEDYCYNĄ PRACY**

## **Health risk assessment as an environmental health task**

### **Ocena ryzyka zdrowotnego jako obszar zdrowia środowiskowego**

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#### **Abstract**

Health risk assessment is an instrument for evaluate the potential negative health effects that may occur as a result of exposure to harmful substances present in the environment. The environment is of fundamental importance to human health and quality of life. In the era of increasing global warming, we observe significant changes in the environment. Additionally, due to environmental contamination with various anthropogenic products, it is very difficult to define, maintain and improve the quality of life for humans, and thus the protection of human health requires increased attention. Health problems related to environmental pollution are not limited to the respiratory system, cardiovascular system or the occurrence of specific cancers, but are also associated with other chronic diseases and pathologies. The most important of the current challenges is the search for the etiology of contemporary civilization diseases. Many of them stem from changes in the environment. Therefore, it is important to raise the level of environmental safety and human health by identifying the sources and explaining the fate of pollution in the environment and its impact on human health. One of the available preventive tools is health risk assessment. The process of assessing is a multi-stage activity, which will be presented on the selected examples. As a result, specific actions can be taken to reduce human exposure and eliminate health consequences. Since risk assessment is used to support risk management and decision-making, the assessment process must be scientifically sound and based on the best research data.

#### **Citation**

Tankiewicz M. Health risk assessment as an environmental health task. Eur J Transl Clin Med. 2021;4(Suppl.2):55.



## SESJA 6A. MEDYCYNĄ PRACY

## The impact of the work environment on the functioning of medical workers

### Wpływ środowiska pracy na funkcjonowanie pracowników medycznych

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#### Abstract

**Introduction:** Shift work has a different character, organizational model and duration. In health sectors around the world, it is necessary to organize systems of continuous operation due to the needs of society. The professional group that performs the largest number of around-the-clock services is nurses. However, shiftwork systems vary among countries. An important guarantee of a safe working environment is full knowledge about the existing hazards or risks associated with shiftwork and its negative effects on an employee, and how to prevent them.

**Purpose of the Study:** The purpose of the study was to assess the impact of shift work on health and social life of nurses, taking into account individual factors and personality types. **Materials and Methods:** The study group consisted of 1236 participants, while the control group consisted of 795 participants. For the study group, shift work was defined as shifts with nightshifts. For the control group, shift work was defined as morning shifts without nightshifts, sometimes day shifts and afternoon shifts. Literature review for this study consisted of materials found in major databases (Medline, Scopus, ClinicalKey, Web of Science), and other sources of literature related to the subject and method of this analysis. Data for the study was collected through a method of diagnostic survey where the respondents had a direct contact with the researcher. The research tools were based on Standard Shiftwork Index (SSI), where the following questionnaires were selected: Sleep Questionnaire, Chronic Fatigue Questionnaire, Physical Health Questionnaire, General Health Questionnaire, Cognitive-Somatic Anxiety Questionnaire, Social and Domestic Survey, Composite Morningness Questionnaire, Eysenck Personality Inventory. The SSI also provided a basis for collecting data regarding shift work systems and general characteristics of the respondents. All statistical analyses were performed using the statistical package StatSoft, Statistica10.0. The level of significance for the verified hypotheses assumed at  $p \leq 0.05$ . **Results and Conclusions:** The results obtained confirmed the negative impact of shift work with night shifts, showing negative effects on physical health in the study group: more problems with the digestive system, increased number of diseases particularly of back pain, increased use of medications (mostly pain relief), increased coffee intake, increased irregularity in menstrual cycle, and reduced sleep quality. The study results also showed negative effects of shift work on mental health issues. The study showed statistically significant effects of shift work on nurses' social life: reduced satisfaction with time off work for contacts with relatives and socio-cultural life. The study group agreed that shift work systems interfere with social and domestic activities and causes major problems with social life, domestic life, job performance, and negatively affects relationships with partners. Among the individual factors affecting health and social life, the most significant were organizational problems such as frequent changes in schedule, irregular work patterns,





- frequent unpaid overtime, longer commute time to and from work, and partners' negative attitudes toward shift work. Analysis of the results led to the conclusion that shift work with night shifts adversely affects the health and social lives of nurses. However, for Polish nurses, equally significant variables appeared to be staff organizational problems and management. Working in a shift system should be avoided by people with neurotic traits and who live with a partner who has a negative attitude toward shift work.

### Citation

Gaworska-Krzemińska A The impact of the work environment on functions of medical workers. Eur J Transl Clin Med. 2021;4(Suppl.2):56-57.



## SESJA 6A. MEDYCYNĄ PRACY

## The impact of night shifts on the reproductive health and sexual satisfaction

### Dyżury nocne a zdrowie reprodukcyjne i satysfakcja seksualna

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#### Abstract

Epidemiological studies on the relation between night work and the occurrence of diseases, disorders and ailments in shift workers have been conducted for over 60 years. The literature contains numerous studies on the influence of the shift work on sleep disorders, the occurrence of digestive system diseases, cardiovascular diseases, metabolic disorders, malignant tumours as well as menstrual disorders and the course of pregnancy. The research also shows that the sphere of personal life is disrupted, family and friends contacts related to shift work are more difficult. There are no studies in the midwife community in Poland. The aim of this study was to determine the influence of shift work on the reproductive health and midwives' satisfaction with their sex lives. The research used the diagnostic survey method. The research tools consisted of socio-demographic data, the Life Satisfaction Questionnaire (FZL), Polish adaptation by Jan Chodkiewicz, original questions on reproductive health and the Female Sexual Function Index (PL-FSFI) – Polish version. In the period from July 2019 to April 2020, a total of 520 female midwives working in medical facilities in the Pomeranian Voivodeship were examined, which is over 25% of the total number of employees in this region. Studies have shown that midwives working in the shift system (with night shift) are more likely to suffer from problems with sexual dysfunction, reproductive health and life satisfaction. Respondents with reproductive health problems are more likely to suffer from sexual dysfunction.

#### Citation

Moćkun-Pietrzak J. The impact of night shifts on the reproductive health and sexual satisfaction. Eur J Transl Clin Med. 2021;4(Suppl.2):58.

## SESJA 6A. MEDYCYNĄ PRACY

**The prevalence of cardiovascular risk factors among seafarers****Rozpowszechnienie czynników ryzyka chorób układu sercowo-naczyniowego wśród marynarzy****Joanna Szafr-Dobrowolska****Affiliation**

Division of Occupational, Metabolic and Internal Diseases, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Cardiovascular diseases (CVD) are a diverse group of heart and vascular diseases and the most common cause of death and disability in Poland. CVDs are also an important health problem among seafarers, being the second cause of death after accidents at work, which is reflected in the statistics of the TMA service in Gdynia. Moreover, due to the nature of work and difficulties in accessing specialized medical procedures, seafarers seem to be a group particularly vulnerable to CVD. Furthermore, the literature lacks current studies on the incidence of CVD risk factors among Polish seafarers. In the presented work, I assess the prevalence of CVD risk factors among seafarers who obtained marine health certificates at the UCMMiT Occupational Medicine Clinic in Gdynia from February 2018 to February 2019. The study included analysis of data obtained from the author's questionnaire; the questionnaire assessing the styles of coping with stress (CISS), as well as selected laboratory test results. The results were also compared with the results of the NATPOL 2011 study. In the study, the presence of CVD risk factors such as abnormal body weight, smoking, lipid disorders and hyperglycemia were found among sailors more often than in the general population. Also, harmful psychosocial factors such as discrimination, exposure to a traumatic event or sleep deprivation were a significant problem in the study group. Based on the analysis, it can be concluded that many cardiovascular risk factors are more common in this occupational group than in the general population.

**Citation**

Szafr-Dobrowolska J The prevalence of cardiovascular risk factors among seafarers. Eur J Transl Clin Med. 2021;4(Suppl.2):59.



## SESJA 6A. MEDYCYNĄ PRACY

## Professional functioning in the helping relationship among a group of nurses and midwives

Funkcjonowanie zawodowe w relacji pomagania na przykładzie  
grupy pielęgniarek i położnych

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University of Gdańsk, Gdańsk, Poland

### Abstract

Elements of work and its environment may affect the experience of occupational stress in the group of nurses and midwives. Due to the observed trends in the health services market and socio-demographic changes, these professions should be the object of special attention and care. In the presented study, the aim was to analyze the significance of organizational variables (such as working hours, night shifts, contact with a COVID patient) and psychological variables (resilience, job satisfaction, intention to leave, balance between personal and professional life, support from family / friends, self-assessment of health) for experiencing occupational stress in this group. A comparative analysis of the family role overload and work role overload was also assumed. The 390 nurses and midwives were examined using the online method. The significance of job satisfaction, mental resilience or intention to leave the profession for the intensity of occupational stress was established. There was no correlation between stress and managerial function. Over 9% of respondents declared bad or very bad health. The results were discussed, taking into account the limitations of the conducted research and the need for their continuation.

### Citation

Sygit-Kowalskowska E, Piotrowski A. Professional functioning in the helping relationship among a group of nurses and midwives. Eur J Transl Clin Med. 2021;4(Suppl.2):60.



SESJA 6B. VARIA IV

## Consequences of SARS-CoV-2 infection in children – the COVIDEK program

### Następstwa zakażenia wirusem SARS-CoV-2 u dzieci – program COVIDEK

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Department of Pediatrics, Hematology and Oncology, Medical University of Gdańsk, Gdańsk, Poland

#### Abstract

**Introduction:** The SARS-CoV-2 virus, since March 2020, has caused numerous infections not only in adult population but also among children and adolescents. The possible consequences of SARS-CoV-2 infection in pediatric patients are not yet known. **Objective:** To assess the consequences of SARS-Cov-2 infection in children and adolescents as part of coordinated multi-specialist medical care. **Materials and methods:** The COVIDEK program has been conducted by specialized Clinics of the University Clinical Centre, Medical University of Gdańsk, Poland, since March 2021 till now. Children with confirmed SARS-CoV-2 infection (positive PCR test) aged 0-18 years were included in the study. The symptoms of infection, routes of spread, demographic data were collected according to a validated survey during interview; anthropometric tests (weight, height, body fat content - bioimpedance), immunological data, pulmonary function tests - spirometry, respiratory muscle strength, 6 minute walking test, ultrasound of the lungs, abdominal cavity, echocardiography were performed. **Results and Conclusions:** During six month 562 children (304/258 male/female) aged 1-18 were assessed. Infected children were in every age group; the clinical course of COVID infection was varied: from asymptomatic (15%) to severe (5%). Regardless of the clinical course, one of the leading signs of infection was muscle, bone and throat pain, diarrhoea and cough. As consequences of infection, chronic fatigue, decreased exercise tolerance, changes in immunological tests and in the pulmonary function tests were observed. In children who had an asymptomatic infection, sequelae in the form of hyperreactivity of the respiratory tract was observed. It seems necessary to monitor children after infection in order to detect the possible consequences of SARS-Cov-2 virus infection.

#### Citation

Wasilewska E, Renke J, Dudkiewicz M, Jaworska N-I. Consequences of SARS-CoV-2 infection in children – the COVIDEK program. Eur J Transl Clin Med. 2021;4(Suppl.2):61.



## SESJA 6B. VARIA IV

## Spa typing and clonal analysis of *Staphylococcus aureus* isolates from recurrent tonsillitis in children

Typowanie spa oraz analiza klonalna *Staphylococcus aureus* izolowanych od dzieci z nawracającym zapaleniem migdałków

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<sup>2</sup>Voivodeship Specialist Children's Hospital, Olsztyn, Poland

<sup>3</sup>Department of Food Hygiene and Consumer Health Protection, Wrocław University of Environmental and Life Sciences, Wrocław, Poland

### Abstract

Recurrent tonsillitis (RT) constitutes a common problem in pediatric otolaryngology, and *Staphylococcus aureus* is frequently isolated pathogen. However, the role of *S. aureus* in RT is still in debate and the epidemiology and clonality of *S. aureus* isolated from children with RT are still poorly recognized. The study aimed to analyze the spa types and clonal distribution among *S. aureus* isolated from children suffered from recurrent tonsillitis. The study included 73 children after tonsillectomy. *S. aureus* was isolated from tonsillar surface prior to tonsillectomy, recovered from tonsillar core at the time of the surgery, and from posterior pharynx 2-4 weeks after the procedure. Epidemiological analysis of *S. aureus* strains was conducted by spa typing method. A total of 80 staphylococcal isolates represented 8 clonal complexes (CC5, CC7, CC9, CC15, CC25, CC30, CC45 and CC398), comprising 24 different spa types. More than half of the isolates (64%) belonged to one of the four clonal complexes: CC7, CC45, CC30 and CC5. The most common spa types, t091, t084 and t002 were represented by 22.5%, 11.3% and 10% of the isolates, respectively. The examined material included four new spa types. Methicillin-resistant isolates were assigned to t011 and t056 spa types. *S. aureus* associated with RT in children showed considerable genetic diversity, predominant spa type in our series, t091-CC7, is one of the most often found MSSA clones in Europe, isolated not only from carriers but also from invasive staphylococcal infections in children.

### Citation

Marta K, Katarzyna G, Wacław K, Jacek B, Justyna S. Spa typing and clonal analysis of *Staphylococcus aureus* isolates from recurrent tonsillitis in children. Eur J Transl Clin Med. 2021;4(Suppl.2):62.

**SESJA 6B. VARIA IV**

## **Hemorrhagic manifestation of small vessel disease in the central nervous system and anticoagulants – case study**

Postać krwotoczna choroby małych naczyń ośrodkowego układu nerwowego a terapia przeciwwzkrzepowa – analiza przypadku

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### **Abstract**

A rare manifestation of the small vessel disease in the central nervous system is haemorrhage. The clinical picture of this disease does not differ significantly from the ischaemic form and the diagnosis can be made after performing an MRI of the brain. This examination shows diffuse areas of hemosiderin in the white matter of the cerebral cortex, which are left after numerous cerebral microbleeds. However, the diagnosis of this disease may be of key importance in the context of initiating anticoagulant therapy in a patient with atrial fibrillation. Based on the case study, the state of knowledge about this disease will be discussed, especially in the context of managing a patient additionally with atrial fibrillation, who has indications for anticoagulation therapy.

### **Citation**

Marcin M. Hemorrhagic manifestation of small vessel disease in central nervous system and anticoagulants – case study. Eur J Transl Clin Med. 2021;4(Suppl.2):63.



## SESJA 6B. VARIA IV

## Vascular anomalies in children

### Anomalie naczyniowe u dzieci

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**Abstract**

Vascular anomalies in children comprise two main distinct subgroups: vascular tumors and malformations. Apart from benign vascular tumors (hemangiomas), which are commonly seen in infants and young children, the majority of the other vascular anomalies are classified as rare diseases. They include both sporadic entities and genetic syndromes accompanied by vascular malformations. Recently, several promising novel systemic therapies have been developed for some of these rare diseases. The Center of Vascular Anomalies is a new joint multi-specialist initiative of the Department of Pediatrics, Hematology and Oncology (PHO) of the University Clinical Centre (UCC)/Medical University of Gdańsk (MUG) and Departments of Pediatric Surgery of UCC/MUG and Copernicus Hospital. Its aim is to provide multidisciplinary care for children with complicated vascular anomalies from Pomeranian region and all over Poland. Also, the Section of Vascular Anomalies has been launched recently within the Polish Pediatric Solid Tumors Study Group of the Polish Society of Pediatric Oncology and Hematology to support the activities of the Center of Vascular Anomalies and share the clinical, didactic and scientific experience. Currently, the Department of PHO is taking care of over 50 children with vascular anomalies from various parts of Poland. They include Kaposiform Hemangioendothelioma, Sturge-Weber syndrome, Gorham's disease, PHACES syndrome, Klippel-Trénaunay syndrome, generalized lymphatic anomaly (GLA), as well as genetic hypertrophic syndromes associated with vascular malformations. The patients are offered highly specialized diagnostics (pathology, genetics) and multimodal care, including methods of local therapy (laser, surgery, endovascular intervention) as well as novel systematic treatment, often based on off-label newly developed medications and targeted therapies. Patients require long-term, interdisciplinary care of pediatric oncologist, geneticist, pediatric surgeon, plastic surgeon, invasive radiologist, neurologist and many more. The medical team of the Department of PHO is dynamically developing its scientific and clinical activities, becoming currently one of the two main centers taking care over vascular anomalies in children in Poland. Here we present three of our patients: with Sturge Weber's syndrome, PHACES syndrome and GLA.

**Citation**

Kłosowska A, Krawczyk M, Gabrych A, Bień E. Vascular anomalies in children. Eur J Transl Clin Med. 2021;4(Suppl.2):64.

## SESJA 6B. VARIA IV

## Molecular look at melanoma, or glycoproteins in cells of neuroectodermal origin

### Molekularne spojrzenie na czerniaka, czyli o glikoproteinach w komórkach pochodzenia neuroektodermalnego

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#### Abstract

For years, scientists from around the world, side by side with the health service, have been working on understanding the mechanisms of both nervous system diseases and all types of cancer, while trying to unravel the biggest mystery of how to effectively treat them. Along with the development of medicine and science, the belief that it is impossible to cure slowly begins to dominate over a single organ, e.g. the brain or skin without interfering with other parts of the human body. At the same time, we are becoming aware of the many years of work of many research teams on how tumors metastasize from one tissue and attack another, covering the entire body, and that there is more than one way to expand the body in cancer. The research presented here focuses on the analysis of very specific proteins that undergo the process of O-GlcNAcylation in the human body and show how much influence they can have on the development of genetic mutations in cells, with particular emphasis on their role in the melanocytes of the largest organ of the human body, i.e. the skin. The presented cups are also to draw attention to the fact that O-GlcNAcylated proteins present in cells of the same origin (differentiating from the neuroectoderm) may be one of the key causes of the characteristic metastases in neoplastic diseases. proteomic approach, a total of 60 O-GlcNAcylated proteins were identified, 36 of which were identified for the HEMa-LP cell line, 14 for the E076 melanoma cell line, and 10 proteins were common to both of these cell lines. These proteins have not yet been described for O-GlcNAcylation, so this is a new subset of glycoproteins that offers further research opportunities and new insight into treatment options for skin cancer and invasive tissues of the nervous system.

#### Citation

Załugowicz E. Molecular look at melanoma, or glycoproteins in cells of neuroectodermal origin. Eur J Transl Clin Med. 2021;4(Suppl.2):65.



## SESJA 6B. VARIA IV

## The metabolism of T regulatory cells

### Metabolizm limfocytów T regulatorowych

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**Abstract**

Regulatory T cells (Treg) are a small fraction of T cells whose role is to inhibit inflammation and the immune response against their own tissues. An important aspect is cell metabolism, which is the ability to produce energy from various sources, including sugars or fats. Research shows that cell metabolism influences the phenotype and function of Treg. This offers opportunities for immunomodulation of cell function and future application in disease risk assessment and cell therapy planning. The conducted research uses PBMC cells of healthy people. The immunomagnetic isolation is performed to obtain CD4<sup>+</sup> T cells. Subsequently, cells are sorted into regulatory T cells and effector T cells and cultured for 11 days in environments that differ in nutrient composition. During the culture, the activity of enzymes of the main metabolic pathways, glycolysis, fatty acid synthesis, and the Krebs Cycle are measured using spectrophotometric methods. The phenotype and functions of Treg and effector cells are examined. The preliminary research was conducted to assess the activity of hexokinase (HX), lactate dehydrogenase (LDH) and pyruvate dehydrogenase (PDH), which allows for an initial assessment of the cell's metabolic activity. Differences in the activity of these enzymes between Treg and effector lymphocytes were observed. At the same time, the stability of the Treg phenotype was confirmed. Analyzing the preliminary results, it was noted that regulatory T cells are more dependent on mitochondrial metabolism (Krebs Cycle) than effector T cells.

**Citation**

Jankowiak M. The metabolism of T regulatory cells. Eur J Transl Clin Med. 2021;4(Suppl.2):66.

## SESJA POSTEROWA 1

## Prevalence of community-acquired methicillin-resistant *Staphylococcus aureus* strains (CA-MRSA) of phage-type 80/81 isolated from the oral cavity

Występowanie metycylinoopornych pozaszpitalnych szczepów *Staphylococcus aureus* fagotypu 80/81 izolowanych z jamy ustnej

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### Abstract

*Staphylococcus aureus* is one of the most widely isolated human pathogens. Recent studies have shown that the oral cavity is an important, but still underrated, reservoir of *S. aureus*. One such epidemic was caused by a clone known as phage-type 80/81, a penicillin-resistant strain that rose to world prominence in the late 1950s. Hospital outbreaks caused by type 80/81 were reported in many countries around the world, including Canada, Australia, the United States, and Europe. They spread mainly in neonatal and surgical departments and were highly infectious. While there have been fewer outbreaks caused by type 80/81 recently, its occurrence has been reported among epidemic clones of CA-MRSA strains, the Southwest Pacific clone. This study was aimed to investigate antibiotic resistance as well as the pathogenic potential (toxin genes) of *S. aureus* strains of phage-type 80/81 isolated from the oral cavity. 110 oral *S. aureus* isolates were phage typed and their antibiotic resistance was determined by the standard and molecular methods, 24 isolates of phage-type 80/81 were obtained. The isolates most often showed resistance to penicillin and tetracycline (62.5%), and multidrug resistance (41.7%). Methicillin-resistant *S. aureus* (20.8%) represented type IV and V staphylococcal cassette chromosomes *mec* (SCC*mec*), suggesting a community origin (CA-MRSA). Toxin genes were detected among 62.5% of type 80/81 strains, the proportion was statistically higher among MRSA (80%). Two MRSA harbored genes encoded Pantone-Valentine leukocidin (*lukS-PV/lukF-PV*). In conclusion, historic epidemic *S. aureus* clone of phage-type 80/81 currently isolated from the oral cavity of dental patients, represented CA-MRSA strains carrying Pantone-Valentine leukocidin genes, which determined their high pathogenic potential.

### Citation

Kwapisz E, Garbacz K, Piechowicz L, Wierzbowska M. Prevalence of community-acquired methicillin-resistant *Staphylococcus aureus* strains (CA-MRSA) of phage-type 80/81 isolated from the oral cavity. Eur J Transl Clin Med. 2021;4(Suppl.2):67.



## SESJA POSTEROWA 1

## What do we know about forest mushrooms? First aid in case of poisoning

### Co wiemy na temat grzybów leśnych? Pierwsza pomoc w przypadku zatrucia

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#### Abstract

**Introduction:** Cases of poisoning associated with the consumption of forest mushrooms, are still quite common in Poland. The increase in the number of cases is observed in the summer and autumn. The main cause of poisoning is the lack of knowledge about the recognition of edible and poisonous mushrooms and the carelessness of people who are picking them. Another problem with poisoning is a significant amount of misinformation about forest mushrooms. **Aim:** The aim of the study was to check the state of public knowledge about poisonous mushrooms and first aid in case of poisoning. **Material and methods:** The study was conducted using an online survey. The results were reviewed and statistically analyzed using the Statistica software. **Results:** The survey resulted in 63 responses. Respondents indicated that their source of knowledge about mushrooms are most often family members and friends (60,3%), websites (52,4%) and atlases of mushrooms (42,9%). Most of the respondents know 4-7 species of edible mushrooms (46%) and 4-6 poisonous mushrooms (41,3%). Worrying is the fact that respectively 3 and 10 people among the respondents answered that *Amanita phalloides* and *Gyromitra esculenta* is an edible mushrooms. They are most frequently responsible for fatal mushroom poisoning cases in Poland. **Conclusions:** The main cause of mushroom poisoning is the incorrect recognition of edible and poisonous mushrooms. Unfortunately, there are still fatal mushroom poisonings in Poland and the main way to reduce this number is education. The most common symptoms of mushroom poisoning include nausea, vomiting, diarrhea, abdominal and headaches, and increased body temperature. First medical aid is necessary in case of poisoning with forest mushrooms.

#### Citation

Kolasiński S, Pietkiewicz L, Laszczyk K, Brzeska J, Kurpas M. What do we know about forest mushrooms? First aid in case of poisoning. Eur J Transl Clin Med. 2021;4(Suppl.2):68.



## SESJA POSTEROWA 1

## Micronutrient deficiencies and insulin resistance – is supplementation necessary?

Niedobory mikroskładników a insulinooporność – czy suplementacja jest konieczna?

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**Abstract**

Insulin resistance is the state of the human body when the biological response to insulin stimulation of target tissues is impaired. This mainly concerns the liver, muscles, and adipose tissue. The removal of glucose from the bloodstream is disturbed, which results in a compensatory increase in this hormone production by pancreatic beta-cells and hyperinsulinemia. There are dietary supplements on the Polish market, which are recommended by manufacturers to supplement micronutrient and vitamin deficiencies in people with impaired glucose and insulin metabolism. The aim of the study was to describe potential nutritional deficiencies in patients with insulin resistance and to consider the need for supplementation in these patients. The most commonly deficient micronutrient among patients with insulin resistance is vitamin D, followed by vitamin B12, folic acid, chromium, and magnesium. Their proper level is crucial due to the roles they play in the body, e.g. they are cofactors of many enzymes involved in glucose metabolism, they increase the insulin sensitivity of peripheral tissues, and are components of enzymes that metabolize free radicals. Deficiency of micronutrients related to insulin activity may influence important physiological processes, such as glycogenolysis, lipolysis, glycolysis, and gluconeogenesis, which malfunctioning lead to metabolic and biochemical disorders related to this hormone resistance, i.e. oxidative stress, pancreatic beta-cell dysfunction, defective insulin signaling mechanism, reduction of the lean body mass and others. Micronutrient supplementation may have a positive effect on glucose-insulin metabolism, however, it should always be used with caution, after prior analysis of the diet, pharmacotherapy, and consultation with a doctor.

**Citation**

Kluczek M, Grembecka M. Micronutrient deficiencies and insulin resistance – is supplementation necessary? Eur J Transl Clin Med. 2021;4(Suppl.2):69.



## SESJA POSTEROWA 1

## Omega-3 PUFA-enriched, low-glycemic-load plant-based diet improves dyslipidemia in patients with familial hypercholesterolemia

Dieta roślinna o niskim ładunku glikemicznym i o podwyższonej zawartości omega-3 PUFA poprawia dyslipidemię u pacjentów z hipercholesterolemią rodzinną

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### Abstract

**Background:** The cumulative LDL-cholesterol (LDL-C) exposure places patients with familial hypercholesterolemia (FH) at high risk for premature atherosclerotic cardiovascular disease (ASCVD) [1]. Extensive evidence supports the cardioprotective effects of omega-3 polyunsaturated fatty acids (PUFA), including their beneficial effects on serum LDL-C levels. We aimed to evaluate the efficacy of a low-glycemic-load plant-based diet enriched in omega-3 PUFA in reducing blood levels of LDL-C and apolipoprotein B (apoB) in FH patients. **Materials and methods:** Twenty unrelated adult FH patients (12 treated with statins: rosuvastatin, n=10; atorvastatin, n = 2) followed a plant-based diet emphasizing the consumption of oily fish, nuts, and vegetable oils rich in omega-3 PUFA for 3-4 months. The experimental diet was individually prescribed for each patient. Serum levels of LDL-C and apoB were measured at baseline and after the intervention using an enzymatic assay and ELISA, respectively. The data from 24-hour dietary recalls, 3-day food records, and food frequency questionnaires (FFQ) were analyzed using the Wilcoxon matched-pairs test or Fisher's exact test. **Results:** During the intervention, the dietary intake of omega-3 PUFA increased (by 249.1%,  $p = 0.00020$ ) but the glycemic load was reduced (by 18.11%,  $p = 0.00073$ ). At the end of the intervention, FH patients showed a reduction in serum LDL-C and apoB levels: LDL-C decreased by 10.49% ( $p = 0.00207$ ) and apoB by 12.51% ( $p = 0.01963$ ). **Conclusions:** A low-glycemic-load plant-based diet enriched in omega-3 PUFA significantly lowers serum levels of LDL-C and apoB in FH patients, and might thus reduce cardiovascular risk in familial hypercholesterolemia, complementing pharmacological lipid-lowering therapies.

### Citation

Kochan Z, Mironiuk K, Mickiewicz A, Karbowski A, T. Smolenski R, Gruchala M, Karbowska J. Omega-3 PUFA-enriched, low-glycemic-load plant-based diet improves dyslipidemia in patients with familial hypercholesterolemia. Eur J Transl Clin Med. 2021;4(Suppl.2):70.

## SESJA POSTEROWA 1

## Iron supplements – the current situation on the Polish market

### Suplementy diety zawierające żelazo – aktualna sytuacja na polskim rynku

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#### Abstract

In the last decade, dynamic development of the dietary supplements market in Poland, especially of entities selling online, was observed. The registration procedure is relatively easy and free of charge. For example, in 2021 (01-09.2021) there were 9,871 new formulations containing iron reported. The study aimed to analyze the Polish market of iron supplements. The database of the "Register of products subject to the notification of the first marketing" and the commercial offer of the four most popular pharmacy chains was reviewed. Data were collected for three months, i.e. 06-08/2021. The analyzed products were characterized based on formulation, the chemical form of the active substance, the number of active substances, indications, and country of origin. Then, the percentage share of individual groups in the analyzed set was estimated. A group of 200 iron preparations with the highest availability was collected. Most of them were multi-ingredient supplements (91.5%), mainly produced in Poland. They were most often in the form of tablets (39%) and capsules (34%) with the dose of 14 mg iron compounds (17.5%). The most common components were iron (II) fumarate (29.5%) and ferrous bisglycinate (22%). The enormous popularity of dietary supplements, their availability, and at the same time their unproven quality and effectiveness carry a health risk for consumers. To protect the consumer and ensure the safety and quality of products, more stringent control should be introduced. Moreover, consumers should be more aware of the limitations associated with the use of this product group.

#### Citation

Sagatovych S, Brzezińska-Rojek J, Brzezicha J, Misztal-Szkudlińska M, Grembecka M. Iron supplements – the current situation on the Polish market. Eur J Transl Clin Med. 2021;4(Suppl.2):71.



## SESJA POSTEROWA 1

## The impact of tea consumption on health in the opinion of dietetics students

### Wpływ spożywania herbaty na zdrowie w opinii studentów dietetyki

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#### Affiliation

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#### Abstract

Although it has been known for thousands of years and its health properties have been proven scientifically, tea is often underestimated. When the consumer is exposed to the risks of consuming highly processed foods, the natural, unprocessed or low-processed foods become more popular. Therefore, it is important to spread the knowledge about health-promoting properties of natural food products that could enrich the daily diet and could positively affect body function. The prepared questionnaire form was available to fifth-year students of dietetics at the Medical University of Gdańsk. The research was carried out for 5 consecutive years, and ultimately the responses of 200 students were used. The questionnaire form contained 13 statements concerning the potential impact of tea consumption on human health. The participants of the study had to indicate which of the given teas (black, green and Pu-erh), in their opinion, showed the given effect. The responses of the majority of the group, with the presented statements regarding the potential impact of tea on health, were correct. The largest discrepancies in the responses appeared in relation to the statements: "tea dehydrates", "thanks to fluoride, tea maintains the condition of the teeth". In the case of the true-to-tea statement (there were 10 of them), each time a group of people, who believed that none of the given teas showed the presented health effects, was identified. Depending on the statement, these groups ranged from 16% ("relieves stomach problems", "has strong antioxidant properties") to 34% of the respondents ("lowers blood pressure").

#### Citation

Karwowska K. The impact of tea consumption on health in the opinion of dietetics students. Eur J Transl Clin Med. 2021;4(Suppl.2):72.

## SESJA POSTEROWA 1

## Incidence of postoperative delirium after cardiac surgery in adults

### Występowanie majaczenia pooperacyjnego u pacjentów dorosłych poddawanych zabiegom kardiochirurgicznym

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#### Abstract

**Introduction:** Postoperative Delirium (POD) is a syndrome of acute neuro-psychotic disorders, featuring sudden onset and fluctuating intensification. It manifests with disturbance of consciousness, disorientation, inability to focus, delusions, and psychomotor arousal. The last often leads to aggression, especially in hyperactive form of POD, which is particularly dangerous for health and life of patients and medical staff. Its occurrence is associated with prolonged hospital stay and higher mortality. The incidence of POD is reported from 26 to even 52%. The aim of our study was to use Delirium Observation Screening Scale (DOSS) to evaluate the incidence and current risk factors of POD in a cohort of adult patients undergoing cardiac surgery. Here we report the initial results after data having collected from first half of the cohort. **Methods:** Observational cohort study of n = 600 patients. Eligibility criteria: age >18 years, signed informed consent, cardiac surgery, admission to postoperative ward. Exclusion criteria: refusal to participate, age < 18 years, non-cardiac surgery, no admission to postoperative ICU, severe neurologic disability before operation, dementia. POD was diagnosed upon the need for neuroleptic, sedative or anti-psychotic therapy or immobilization after operation. **Results:** From February 1 to July 31, a n = 373 patients were included. POD was diagnosed in n = 77. Patients with POD had higher DOSS score than those without POD – respective medians: 6 (IQR: 2-11) and 2 (IQR: 1-3); Mann-Whitney U p < 0.000000). **Inferences:** POD occurred in 21% of the analysed cohort. DOSS proved useful in defining POD requiring therapy.

#### Citation

Kozak P. Incidence of postoperative delirium after cardiac surgery in adults. Eur J Transl Clin Med. 2021;4(Suppl.2):73.



## SESJA POSTEROWA 2

## Nursing care of a child with nephrotic syndrome

### Opieka pielęgniarska nad dzieckiem z Zespołem Nerczycowym

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<sup>2</sup>Division of Internal and Pediatric Nursing, Medical University of Gdańsk, Gdańsk, Poland

<sup>3</sup>Department of Nephrology, Transplantology and Internal Diseases, Medical University of Gdańsk, Gdańsk, Poland

#### Abstract

**Background:** Nephrotic syndrome is a complex of clinical symptoms and biochemical abnormalities that are manifested by loss of protein in urine. **Aim:** The aim of the study is to present the nursing process in a child hospitalized due to a recurrent steroid-dependent nephrotic syndrome using ICNP<sup>®</sup> terminology. **Material and methods:** The individual case method was used in the study, together with the technique of history-taking, observation and analysis of the patient's medical records. The following research tools were used: the author's original patient history questionnaire, hospital discharge records, body water management chart, height and weight, blood pressure as well as a stethoscope. ICNP<sup>®</sup> terminology was used to create the nursing process. The study was conducted in September 2021. A written consent to carry out the study was obtained from the patient's parent. **Results and conclusions:** Based on the information obtained, the following nursing diagnoses were made: impaired kidney function, proteinuria, peripheral edema, fatigue, anxiety, stress related to the relocation, lack of knowledge about the disease, lack of knowledge about the dietary restrictions, lack of knowledge about the drug, risk of drug side effect, risk of infection. A child with nephrotic syndrome requires appropriate care from the entire treatment team, including nursing care, which plays a very important role in the treatment process. Frequent presence, careful observation combined with nursing activities allow the medical personnel to react quickly and appropriately, and to avoid many complications associated with exacerbation of the disease. Proper education is crucial for providing appropriate home care, achieving the highest possible quality of life for the patient, as well as lowering the risk of recurrence of the disease. ICNP<sup>®</sup> is a simple, standardized tool that supports general and specialized nursing care.

#### Citation

Słomion M, Stefanowicz-Bilska A, Chamienia A. Nursing care of a child with nephrotic syndrome. Eur J Transl Clin Med. 2021;4(Suppl.2):74.

## SESJA POSTEROWA 2

**Mutational analysis of selected genes encoding canonical and non-canonical SHH signaling pathway in pediatric germ cell tumors**

Analiza mutacji genów kanonicznych i nie-kanonicznych sieci sygnalizacji SHH w pediatrycznych guzach germinalnych

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**Affiliation**

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**Abstract**

Germ cell tumors (GCTs) are a heterogeneous group of neoplasms affecting patients of all ages, with varied morphology and clinical course. The unfavourable outcome in some cases and side effects of known therapies provide the need for deeper understanding of their pathogenesis. GCTs development can be linked to primordial germ cells and various defects of their migration, maturation, division, and apoptosis. Since the Hedgehog (Hh) signalling pathway controls cellular migration and specification during embryogenesis, affects gonadal formation and sexual differentiation, its molecular changes may participate in GCTs pathobiology. To evaluate this hypothesis, FFPE samples from over 50 GCTs were examined and selected genes of canonical and non-canonical pathways were investigated using the next generation sequencing technique (NGS) with a custom designed QIAseq Targeted DNA panel comprising 25 genes. Analysis revealed somatic molecular changes in 74% of the tumours, mostly dysgerminomas and mixed tumours. The most common were activating pathogenic changes in the KIT gene (33%) and KRAS (9%). 36% tumours had at least one sequence variant in the genes encoding canonical elements of the Hh pathway. These included likely pathogenic loss-of-function variants in PTCH1, PTCH2, SMO, DISP2, HHIP, ZIC2 and SUFU. Also, a number of missense variants of unknown significance were described including rare single nucleotide variants in LRP2 genes. The observed selective activation of individual pathway elements implies that Hh pathway may be involved in GCT pathogenesis, although rather through dysregulation of physiological maturation processes than being a trigger factor that activates oncogenesis.

**Citation**

Czarnota K. Mutational analysis of selected genes encoding canonical and non-canonical SHH signaling pathway in pediatric germ cell tumors. Eur J Transl Clin Med. 2021;4(Suppl.2):75.



## SESJA POSTEROWA 2

**Modern technologies in the care for patients with disabilities during the COVID-19 pandemic on the example of telemedical startups**

Nowoczesne technologie w opiece nad pacjentem z niepełnosprawnością w czasie pandemii COVID-19 na przykładzie startupów telemedycznych

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**Abstract**

The COVID-19 pandemic has changed our daily lives. The restrictions affected the economy, culture and health care. The changes and restrictions particularly influenced the provision of medical care to people with disabilities. During the pandemic, it was possible to avoid a complete collapse of the healthcare system thanks to, on the one hand, the heroic sacrifice of healthcare workers, and on the other, thanks to the use of advanced medical technologies, or the use of IT solutions to improve medical care and relieve the staff of medical facilities. The development of artificial intelligence is extremely important not only for the development of the modern world and medicine. The object of the consideration is to reflect on the phenomenon of disability in a global pandemic. The research objective was to identify the areas of nursing assistance in caring for a person with a disability during COVID-19. The method of systematic review of domestic and foreign literature was used to describe the phenomena, theories and concepts. It has been hypothesized that telemedicine startups differentiate access to nursing care for people with disabilities. The value of the presentation is that it attempts to identify barriers and areas in which nursing care should be provided and to indicate alternative forms of care for this particular social group. The analysis shows that the pandemic had a significant impact on medical care of a person with disability. Telemedicine startups are an important in providing the tools for care in the time of pandemic.

**Citation**

Armata Z. Modern technologies in the care for patients with disabilities during the COVID-19 pandemic on the example of telemedical startups. Eur J Transl Clin Med. 2021;4(Suppl.2):76.



SESJA POSTEROWA 2

## Peripheral nervous system damage in sarcoidosis – metaanalysis

### Uszkodzenie obwodowego układu nerwowego w przebiegu sarkoidozy

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#### Abstract

**Background:** Sarcoidosis is a granulomatous disease affecting nervous system in 5-15% cases. The SPNS (sarcoidosis of peripheral nervous system) is the least common and is more difficult to diagnose than the central one. **Objectives:** The assessment of symptoms and clinical manifestations of SPNS. **Methods:** The research included 18 patients from case reports. Twelve of them with no previous sarcoidosis and 4 of them already diagnosed with sarcoidosis. There was no information about 2 other cases. The SPNS without histological typing was named as ‘undefined neuropathy’. Children and symptomatic patients, whose neurological symptoms had other reason than sarcoidosis, were excluded from our research. **Results:** Mean age in our study group was 51, 59 years and women predominated (55,6%). The SPNS was first manifestation in 12 cases- eleven of them turned out to have pulmonary sarcoidosis, 1 patient had isolated SPNS. The most common type of SPNS was an undefined neuropathy (9 cases), AIDP (3), CIDP (2), mononeuropathy (2), SIDP (1), polyradiculitis (1) and mononeuritis (1). Ten patients presented symptoms of cranial neuropathy. The most common symptoms include muscular weakness (7 cases), CNVII palsy (7) and CNV palsy (5). Sensory impairment was observed in 7 patients. Seventeen patients had more than one type of neurological symptoms. **Conclusion:** The SPNS is usually the first manifestation of sarcoidosis. The most common type of SPNS is an undefined neuropathy/AIDP and cranial involvement. The most common symptoms are weakness, CNVII palsy and sensory impairment. The SPNS has many clinical manifestations. Further research is needed.

#### Citation

Dańczyszyn A, Dubaniewicz A. Peripheral nervous system damage in sarcoidosis – metaanalysis. Eur J Transl Clin Med. 2021;4(Suppl.2):77.



## SESJA POSTEROWA 2

## Patient's right to health protection in the field of compulsory and recommended preventive vaccinations

### Prawo pacjenta do ochrony zdrowia w zakresie obowiązkowych i zalecanych szczepień ochronnych

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Department of Administrative Proceedings and Administrative Court Proceedings, Faculty of Law and Administration, University of Gdańsk, Gdańsk, Poland

#### Abstract

This work aims to examine the problem of the conflict of values resulting from the patient's right to health protection from the perspective of compulsory and recommended preventive vaccinations. The obligation to undergo vaccinations and to promote recommended vaccinations, including, inter alia, vaccinations against COVID-19, is a preventive measure in combating infections and infectious diseases. The purpose of preventive vaccinations is to protect the health of the individual and society as a whole. Currently, we can observe a decrease in the number of people who underwent compulsory immunization, which negatively affects the health of the individual and society. At the same time, vaccination coverage against COVID-19 is still low. The fewer people undergoing compulsory and recommended vaccinations, the lower the herd immunity, which increases the likelihood of infections and infectious diseases. Opponents of preventive vaccinations are afraid of adverse reactions and are guided, among other things, by the right to freedom and autonomy. On the other hand, supporters of preventive vaccinations focus on protecting public health by adapting to the limitations of democracy. In order to protect public health, international states must be guided by the principles of solidarity and proportionality. The considerations were based on international regulations, the Polish Constitution, the Act on preventing and combating human infections and infectious diseases as well as administrative and European judicature.

#### Citation

Łapińska M. Patient's right to health protection in the field of compulsory and recommended preventive vaccinations. Eur J Transl Clin Med. 2021;4(Suppl.2):78.

SESJA POSTEROWA 2

## Assessment of selected cognitive functions after SARS-CoV-2 virus infection

### Ocena wybranych funkcji poznawczych po przejściu zakażenia wirusem SARS-CoV-2

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**Affiliation**

Division of Occupational, Metabolic and Internal Diseases, Medical University of Gdańsk, Gdańsk, Poland

#### Abstract

**Introduction:** The SARS-CoV-2 virus infection is associated with numerous multi-organ dysfunctions. One of the negative consequences after COVID-19 is the occurrence of the so-called COVID fog. The aim of the presented study is to assess chosen cognitive functions after SARS-CoV-2. **Material and methods:** 54 people were examined after infection with SARS-CoV-2 and 38 in the control group. The following methods were applied: Addenbrooke's Cognitive Functioning Scale (ACE III), "Piórkowski" and "Cross" apparatus - psycho-motor efficiency assessment tests and the Beck Depression Scale. **Results:** The mean age of participants was 39 years (SD = 10). The Beck scale test ruled out depression in the study group and ACE III screening test presented the overall result within the norm (m = 93.7%, SD = 5,5). In terms of the verbal fluency scale, the result in the study group was below the average line of the graph (m = 85.5%, SD = 7,1). The study group subjects obtained lower results than the control group in verbal fluency - the letter test (COVID group m = 15.8 (7-2); control group m = 18 (7-38)) and lower psycho-motor performance at the imposed tempo (COVID group m = 4.8 (1-8); control group m = 6.7 (4-8)). **Conclusions:** Decreased results after COVID-19 in terms of verbal fluency, involving such functions as: speech, memory and executive processes may suggest the presence of dysfunctions in the frontal and temporal lobes. Additionally, lower results of psychomotor performance may indicate the occurrence of disorders in the cortical visual and motor systems.

#### Citation

Grubman-Nowak M. Assessment of selected cognitive functions after SARS-CoV-2 virus infection. Eur J Transl Clin Med. 2021;4(Suppl.2):79.



## SESJA POSTEROWA 2

## Body satisfaction and gender congruence in non-binary transgender people in Poland

### Satysfakcja z ciała i zgodność płci u transpłciowych osób niebinarnych w Polsce

**Miłosz Dziedziak**

**Affiliation**

Division of Clinical & Experimental Endocrinology, Medical University of Gdańsk, Gdańsk, Poland

#### Abstract

**Background:** Research reveal that binary transgender people experience high incongruence between experienced gender and physical characteristic and sex assigned at birth. There is also a relationship between gender incongruence and lower mental well-being, life and body satisfaction in this population. There are very few studies exploring gender incongruence and body satisfaction in non-binary transgender people. It is, in this context, important to investigate mental well-being associated with experienced gender and life satisfaction in non-binary transgender people. **Method:** In total, 155 participants aged 16 - 26 were recruited via support groups for LGBTQIA and transgender people, 49 non-binary (M = 18.84, SD = 2.20), 50 binary (M = 19.92, SD = 2.86) and 56 cisgender-identifying people (M = 19.80, SD = 3.06). Participants were asked to complete an online survey. **Results:** Cisgender people reported significantly higher gender congruence, mental well-being associated with experienced gender, life and body satisfaction compared to non-binary and binary transgender groups. Non-binary transgender people reported significantly higher congruence of appearance with gender identity, higher satisfaction with the overall appearance, higher mental well-being associated with experienced gender and higher life satisfaction compared to binary transgender people. On sex-specific characteristics, non-binary transgender people reported significantly higher body satisfaction and gender congruence compared to binary transgender people. There was no significant difference in congruence and satisfaction with social gender role between non-binary and binary transgender group. The discussion concerns the obtained results.

#### Citation

Dziedziak M. Body satisfaction and gender congruence in non-binary transgender people in Poland. Eur J Transl Clin Med. 2021;4(Suppl.2)80.

## SESJA POSTEROWA 2

**Music-based prevention project “Neglekt”**

## Muzyczny projekt profilaktyczny „Neglekt”

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**Abstract**

Mental health is a growing topic around the world, especially among young people. In the era of the COVID-19 pandemic, problems related to anxiety, depression, or personality disorders are becoming much more prominent. Many researchers highlight the scale of the problem. Feelings of loneliness, anxiety, helplessness, grief or anger are just a few of the symptoms that increase during mandatory isolation. To create an effective prevention project, it is important to pay attention to several important aspects. As research indicates, the most effectively attracting information messages are those that incorporate words, images, and music. All these aspects - attractive form, syncretic stimulation of the senses, increasing the sympathy of the recipient through identification with the message – are fulfilled by songs enriched with images. Why “Neglect?” It is a neuropsychological condition which manifests in the inability of a person to process and perceive stimuli on one side of the body or environment. To help people affected by neglect disfunction, another person has to show them the neglected part of the world. In our daily rush, each of us somehow overlooks the other side of the world, the other point of view, the other person - the dark side of the moon. “Neglekt’s” songs are meant to draw attention to the forgotten beauty, underestimated time, feelings, relationships, new reality. Music reaches the deepest parts of the soul, so it can become a cure for everyday “social neglect”.

**Citation**

Staruch J. Music-based prevention project “Neglekt”. Eur J Transl Clin Med. 2021;4(Suppl.2):81.



## SESJA 7 CHOROBY ZAKAŻNE

**Malaria in the time of COVID-19**

## Malaria w czasach COVID-19

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**Abstract**

According to the World Health Organization (WHO) 94% of global malaria cases and 94% of global malaria deaths were reported in Africa (the World Malaria Report 2020: totally 229 million infected people and 409,000 deaths per year). Unfortunately, it is difficult to determine the exact prevalence of this disease in African countries due to a large number of asymptomatic cases. The WHO predicts that due to the ongoing COVID-19 pandemic, which may potentially lead to a collapse of the national healthcare systems in many developing countries, the total number of cases and deaths from malaria in Sub-Saharan Africa may be similar to the higher morbidity and mortality level last seen 20 years ago. The aim of this study was to assess the prevalence of malaria infections in seemingly healthy children living in the Sub-Saharan Africa on the example of south-west Central African Republic (CAR). Rapid diagnostic tests targeting *Plasmodium* were used for the diagnosis of malaria in the group of 500 asymptomatic children aged 1-15 years old in March 2020 and 170 asymptomatic children aged 1-15 years old in August 2021 (the same group of inhabitants from the villages of the Dzanga Sangha region, settled Bantu and semi-nomadic Baaka Pygmies). Our findings allowed to demonstrate the high prevalence of asymptomatic malaria infections in south-west CAR. RDTs seem to be a useful tool for the detection of *Plasmodium* in areas with limited possibilities of using other diagnostic methods, such as light microscopy and molecular biology.

**Citation**

Korzeniewski K. Malaria in the time of COVID-19. Eur J Transl Clin Med. 2021;4(Suppl.2):82.

## SESJA 7 CHOROBY ZAKAŻNE

## Climate change and invasive *Aedes* mosquito vectors: consequences for Europe

### Zmiany klimatu a inwazyjne wektory *Aedes*: konsekwencje dla Europy

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**Abstract**

Among the invasive mosquitoes, the *Aedes* species are particularly frequent and important. As several of them are potential vectors of arboviral disease, they present significant health concerns for Europe. A few species have been established in mainland Europe, with two (*Aedes albopictus* and *Ae. japonicus japonicus*) becoming widespread and implicated in disease transmission to humans in Europe. The Asian Tiger mosquito, *Aedes (Stegomyia) albopictus*, presents the major threat to public health in Europe. *Ae. albopictus* is common in tropical and subtropical regions of the world but has managed to establish in temperate regions due to human activity such as the importation of used tyres and translocation of adult mosquitoes in cars. In Europe, the species is widespread throughout the Mediterranean Basin, and it is currently expanding its range to northern latitudes. The invasive Asian bush or rock pool mosquito *Aedes (Hulecoeteomyia) japonicus japonicus* originates from East Asia and the Far East, where it is widespread and even colonises regions with harsh winters in invaded areas of North America and Europe. The transmission of vector-borne diseases requires an introduced or established vector population, a pathogen and suitable environmental and climatic conditions across the full cycle of vector-borne disease transmission in humans. Globalisation and climate warming increases the risk of the geographic spread of vector-borne diseases. This results in elevated vulnerability within Europe for the introduction of vector-borne arboviral diseases such as i.e. Dengue, Chikungunya and Zika. This situation resulted in autochthonous outbreaks of Dengue, Chikungunya and Zika mainly in Italy and France.

**Citation**

Biernat B. Climate change and invasive *Aedes* mosquito vectors: consequences for Europe. Eur J Transl Clin Med. 2021;4(Suppl.2):83.

**SESJA 7 CHOROBY ZAKAŻNE****Viral Hepatitis – Risk Update****Wirusowe zapalenia wątroby – aktualizacja zagrożeń****Piotr Stalke****Affiliation**

Department of Infectious Diseases, University of Gdańsk, Gdańsk, Poland

**Abstract**

Viral hepatitis is caused by primary and secondary hepatotropic viruses. HCV infection was a clinical challenge until 1988, when it was discovered. The introduction of effective serological and molecular diagnostic methods as well as antiviral drugs (DAA) available since 2014 made it possible to eradicate the HCV infection. In 2016 WHO adopted the first global strategy whose guidelines and planned actions are aimed at eliminating hepatitis as a public health problem by 2030. Vaccination against HBV led to the disappearance of the infection in the group < 25 years of age. Unfortunately, asymptomatically infected people still remain. This is a challenge to medical care as they can develop severe, life-threatening reactivation of HBV infection during immunosuppression. They require HBcAb screening and prophylactic antiviral treatment prior to the planned treatment that impairs immunity. HBsAg negative HBV variants can infect previously vaccinated patients. Currently, there are single cases of accumulation of mutations in the HBV pol / s region. Therefore, HBcAb positive, HBsAg negative people should be tested for HBVDNA, especially if HBeAg is present. Another challenge is infection with HEV genotype 3, which is common in the Polish wild boar and probably the pig population. This infection can spread to people through contact with contaminated food products or contamination of water supplies. As a result of the infection, acute viral hepatitis develops, which may become chronic, especially in immunocompetent individuals. The clinical problem is the lack of effective antiviral therapy, immunoprophylaxis and even limited access to diagnostic tests.

**Citation**

Stalke P. Viral Hepatitis – Risk Update. Eur J Transl Clin Med. 2021;4(Suppl.2):84.



## SESJA 7 CHOROBY ZAKAŻNE

## COVID-19 in the Division of Tropical and Parasitic Diseases in Gdynia

### COVID-19 w Klinice Chorób Tropikalnych i Pasożytniczych

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#### Affiliations

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<sup>2</sup>Division of Occupational, Metabolic and Internal Diseases, Medical University of Gdańsk, Gdańsk, Poland

#### Abstract

The COVID-19 pandemic announced by the World Health Organization on March 11 2020 continues today. Until September 29 2021 infection with SARS-CoV-2 was diagnosed in 232909046 people worldwide and 4768139 related deaths were confirmed. Already at the end of January 2020, in the face of the growing threat to public health resulting from the spread of new coronavirus infections in China, the University Center of Maritime and Tropical Medicine (UCMTM) in Gdynia was designated by the Ministry of Health as a place of consultation for people with symptoms of respiratory infections returning from areas where transmission of infection has been confirmed. The fight against the new, contagious disease began on February 28 2020 when by the decision of the Pomeranian Voivode, all UCMTM units were directed to provide medical care related to counteracting COVID-19. During the first 3 months of this activity, over 1000 people were advised in the Emergency Division alone. The first drive-thru testing point in Poland was established at the Institute of Maritime and Tropical Medicine (IMTM)/UCMTM, the functioning of which significantly improved the diagnosis of SARS-CoV-2 infections. Almost 1,000 patients were hospitalized within 500 days in all UCMTM departments, including 46 in the Intensive Care Unit of the Division of Hyperbaric Medicine and Maritime Rescue. In the Division of Tropical and Parasitic Diseases, patients diagnosed with COVID-19 were continuously treated until July, 12, 2021 and medical care was provided to 535 patients, many of them were after organ transplantations. The presentation summarizes the observations of the clinical course of COVID-19 and the effects of treatment in patients hospitalized in the Division of Tropical and Parasitic Diseases.

#### Citation

Sikorska K, Renke M. COVID-19 in the Division of Tropical and Parasitic Diseases in Gdynia. Eur J Transl Clin Med. 2021;4(Suppl.2):85.



## SESJA 9A. CHOROBA PARKINSONA

**Progress in the diagnosis and treatment of Parkinson's Disease**

## Postępy w diagnostyce i leczeniu choroby Parkinsona

**Jarosław Sławek<sup>1,2</sup>****Affiliations**<sup>1</sup>Department of Neurological and Psychiatric Nursing, Medical University of Gdańsk, Gdańsk, Poland<sup>2</sup>Department of Neurology, St. Adalbert Hospital, Gdańsk, Gdańsk, Poland**Abstract**

Parkinson's Disease (PD), since the first systematic report 200 years ago („An essay on the shaking palsy, 1817 by James Parkinson) is one of neurodegenerations where symptomatic treatment is very effective and results in better quality of life and longer survival of 20 years and more in many cases. Progression is slow and extrapolating data from functional neuroimaging studies (SPECT, PET) symptomatic onset (bradykinesia plus one of two: rest tremor and/or rigidity) is preceded by 15-20 years of presymptomatic phase (constipation, depression, hyposmia and REM-sleep behaviour disorder). Nowadays, we can diagnose dopaminergic deficit with objective measures like DaTSCAN SPECT, utilizing specific radioligand -ioflupan, which binds to DAT system and enable the qualitative and quantitative assessment of dopaminergic innervation of basal ganglia. It gives also the opportunity to diagnose patients even in very early, pre-symptomatic phase of PD. In 5-10% of PD patients the inherited forms are identified with PARK2 mutations being the most common in young population (early onset PD) autosomal recessive form and LRRK2- the most common in older patients (autosomal dominant). Treatment of PD consists of pharmacological and surgical interventions. Pharmacological treatment aims to improve the dopaminergic transmission with levodopa being the most efficacious medication since 1975 followed by dopamine agonists (ropinirol, pramipexol, rotigotine, piribedil, apomorphine), MAO-B inhibitors (selegiline, rasagiline), COMT inhibitors (entacapone, tolcapone, opicapone) and amantadine. In advanced stages Deep Brain Stimulation (DBS) surgery is offered with alternative treatment with intrajejunal infusions of levodopa/carbidopa gel from external pump (DUODOPA system) or s.c. infusions of apomorphine from external pump. In phase III of clinical trials are medications which may slow the disease progression, like prasinezumab, the monoclonal antibody responsible for alfa-synuclein clearance from the brain cells.

**Citation**

Sławek J. Progress in the diagnosis and treatment of Parkinson's Disease. Eur J Transl Clin Med. 2021;4(Suppl.2):86.

**SESJA 9A. CHOROBA PARKINSONA**

## **The role of vascular factors in the pathogenesis of dementia in Parkinson's disease**

### **Rola czynników naczyniowych w patogenezie otępienia w chorobie Parkinsona**

**Magdalena Kwaśniak-Butowska**

**Affiliation**

<sup>1</sup>Department of Neurological and Psychiatric Nursing, Medical University of Gdańsk, Gdańsk, Poland

#### **Abstract**

Parkinson's disease is one of the most frequent neurodegenerative diseases. In addition to motor symptoms, there are cognitive and autonomic disturbances. Dementia affects about 20-30% of patients, and later in the disease even 80%. It has a multifactorial aetiology, is a negative prognostic factor (faster disease progression) and significantly reduces the quality of life of patients and their caregivers. The aim of this project is to assess the potential relationship between the coexistence of dysautonomia in the circulatory system together with dopaminergic therapy, some vascular or genetic factors, the localization and severity of hyperintensive changes in white matter and the resulting from this dementia. The project includes: neurological and psychological examination, orthostatic hypotension test, 24-hour blood pressure measurement (Holter RR), a series of laboratory tests, evaluation of polymorphism of selected genes (angiotensinogen, angiotensin converting enzyme, angiotensin II receptors), brain MRI with volumetric measurement of white matter changes. So far, 41 patients have been included in the study. The results of the project may be helpful in determining the diagnostic and therapeutic standards of patients with Parkinson's disease, including, for example, assessment of the cardiovascular system and identification of patients at an early stage who are particularly at risk of developing dementia.

#### **Citation**

Kwaśniak-Butowska M. The role of vascular factors in the pathogenesis of dementia in Parkinson's disease. Eur J Transl Clin Med. 2021;4(Suppl.2):87.

**SESJA 9A. CHOROBA PARKINSONA****Pathogenesis of polyneuropathy in patients with Parkinson's disease treated with levodopa-carbidopa intestinal gel (Duodopa) including supplementation of B-group vitamins and folic acid**

Patogeneza polineuropatii w przebiegu leczenia dojelitową formą lewodopy z karbidopą (System Duodopa) w chorobie Parkinsona z uwzględnieniem stosowania suplementacji witamin z grupy B i kwasu foliowego

**Radosław Piekarski**

**Affiliation**

Department of Neurological and Psychiatric Nursing, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Polyneuropathy in Parkinson's disease occurs in 30% of patients, while in patients treated with levodopa carbidopa intestinal gel (Duodopa) the incidence reaches 42%. The aim of this study is to assess the impact of prophylactic supplementation of B-group vitamins and folic acid on the development of polyneuropathy in patients with Parkinson's disease during Duodopa therapy and to assess the risk factors for the development of polyneuropathy in this group of patients. The study includes 30 patients on Duodopa therapy (15 receiving vitamin supplementation and 15 as a control group), the follow-up period is 2 years, they are tested using clinical scales to assess polyneuropathy and Parkinson's disease, laboratory testing and electrophysiological examination are performed. Additionally the quantitative assessment of the density of nerve fibers in the epidermis in the histological examination of skin biopsy is performed – as an indirect marker of small fiber neuropathy. At present, 19 patients have been enrolled in the study, scheduled to finish in 2023.

**Citation**

Piekarski R. Pathogenesis of polyneuropathy in patients with Parkinson's disease treated with levodopa-carbidopa intestinal gel (Duodopa) including supplementation of B-group vitamins and folic acid. Eur J Transl Clin Med. 2021;4(Suppl.2):88.

**SESJA 9A. CHOROBA PARKINSONA**

## **Genetic form of parkinsonism – Perry syndrome**

### **Parkinsonizm genetycznie uwarunkowany – zespół Perry’ego**

**Jarosław Dulski<sup>1,2</sup>, Łukasz Milanowski<sup>3,4,5</sup>, Emilia J. Sitek<sup>1,2</sup>, Audrey Strongosky<sup>3</sup>, Owen A. Ross<sup>4</sup>, Jarosław Sławek<sup>1,2</sup>, Zbigniew K. Wszolek<sup>3</sup>**

#### **Affiliations**

<sup>1</sup>Division of Neurological and Psychiatric Nursing, Medical University of Gdańsk, Gdańsk, Poland

<sup>2</sup>Division of Neurology, St. Adalbert Hospital, Gdańsk, Poland

<sup>3</sup>Neurology Clinic, Mayo Clinic, Jacksonville, Florida, USA

<sup>4</sup>Neuroscience Clinic, Mayo Clinic, Jacksonville, Florida, USA

<sup>5</sup>Neurology Clinic, Medical University of Warsaw, Poland

#### **Abstract**

Perry syndrome (PS) is a hereditary neurodegenerative disorder characterized by parkinsonism accompanied by depression/apathy, central hypoventilation, and weight loss. The mode of inheritance is autosomal dominant, and in 2009 mutations in the DCTN1 gene were identified as the cause of PS. The DCTN1 gene encodes the dynactin p150Glued subunit involved in microtubule binding and axonal retrograde transport. The DCTN1 gene mutations have been reported as a cause of hereditary motor neuronopathy type 7B, amyotrophic lateral sclerosis, frontotemporal dementia, progressive supranuclear palsy, and other neurodegenerative disorders. The discovery of pathogenic DCTN1 mutations enabled early diagnosis; however, therapeutic interventions are still limited to symptomatic treatments. In recent years, gene therapy has been introduced and is now beginning to revolutionize the treatment of inherited genetic disorders. As gene therapy may be a future therapeutic goal for PS and other DCTN1-related diseases, there is a clear need for a better understanding of the genetic and molecular mechanisms behind the disorders. As PS and other DCTN1-related diseases are underdiagnosed, we aim to increase awareness of these disorders among the medical professionals in Poland by presenting the findings from our study on two Polish families with familial atypical parkinsonism caused by DCTN1 mutations.

#### **Citation**

Dulski J, Milanowski Ł, Sitek E.J, Strongosky A, Ross O.A, Sławek J, Wszolek Z.K. Genetic form of parkinsonism – Perry syndrome. Eur J Transl Clin Med. 2021;4(Suppl.2):89.



## SESJA 9B. WSPÓŁCZESNE OBLCIE KARDIOLOGII

**Modern MRI techniques for imaging the urinary system in children**

Nowoczesne techniki MRI w obrazowaniu układu moczowego u dzieci

**Dominik Świętoń<sup>1</sup>, Małgorzata Grzywińska<sup>2</sup>****Affiliation**<sup>1</sup>2<sup>nd</sup> Division of Radiology, Medical University of Gdańsk<sup>2</sup>Division of Human Physiology, Medical University of Gdańsk, Gdańsk, Poland**Abstract**

Imaging diagnostic protocols for urological disorders in children are constantly changing due to the development of new imaging technologies and methods. In particular, the intensive development of magnetic resonance imaging (MRI) has contributed to increasing the diagnostic possibilities in the assessment of the urinary system in children. This method allows for a comprehensive assessment of the kidneys and urinary tract in children, providing both morphological and functional information without exposing the child to ionizing radiation. MRI is used for comprehensive assessment of abnormalities in the urinary system. The presentation will present new MRI techniques in urinary system imaging, both morphological and functional. Particular attention will be paid to the advantages and limitations of the discussed techniques in comparison with classical imaging methods in children.

**Citation**

Świętoń D, Grzywińska M. Modern MRI techniques for imaging the urinary system in children. Eur J Transl Clin Med. 2021;4(Suppl.2):90.

**SESJA 9B. WSPÓŁCZESNE OBLCIE KARDIOLOGII**

## **Imaging techniques of the cerebral flow – state of the art**

### **Nowoczesne techniki obrazowania przepływu mózgowego**

**Arkadiusz Szarmach**

**Affiliation**

2<sup>nd</sup> Division of Radiology, Faculty of Health Sciences with the Institute of Maritime and Tropical Medicine,  
Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Various types of imaging techniques have been developed and applied to evaluate brain circulation. Among these are Positron Emission Tomography (PET), Single Photon Emission Computed Tomography (SPECT), Xenon-enhanced Computed Tomography (XeCT), Dynamic Perfusion-computed Tomography (PCT), Magnetic Resonance Imaging Dynamic Susceptibility Contrast (DSC), Arterial Spin-Labeling (ASL), Digital Subtraction Angiography (DSA) or Doppler Ultrasound. These techniques give similar information about brain hemodynamics in the form of parameters such as cerebral blood flow (CBF), cerebral blood volume (CBV), mean transit time (MTT), time to peak (TTP) and permeability surface area-product (PS). All of them are used to characterize comparable types of pathological conditions. This presentation addresses the main imaging techniques dedicated to the evaluation of brain circulation. It represents a comparative overview, established by consensus among specialists of the various techniques. For clinicians, this paper should offer a clearer picture of the advantages and disadvantages of currently available brain circulation imaging techniques, and assist them in choosing the proper imaging method in every specific clinical setting.

**Citation**

Szarmach A. Imaging techniques of the cerebral flow – state of the art. Eur J Transl Clin Med. 2021;4(Suppl.2):91.

**SESJA 10A. PATOMORFOLOGIA KLASYCZNA, MOLEKULARNA I CYFROWA****The basics of digital pathology****Podstawy patologii cyfrowej****Jacek Gulczyński****Affiliation**

Division of Pathology and Neuropathology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Pathology as a separate science emerged as a natural consequence of development of anatomy. The lesions initially found only during autopsy soon began to be correlated with the lesions found in patients alive. Documentation of these changes, initially only in the form of text, then drawings, continued in the era of photography. As technology developed, the quality and resolution of photos, microscopic images among them, increased. At the same time, a digital autopsy appeared next to the scanned histological specimens. At the moment of obtaining images in a digital version, the distance between the source of information and the specialist carrying out the analysis of this image ceased to be a problem. Consequently, telepathology began to develop. The discussion between the „conservatives” and „modernists” over the future of pathology seems aimless, as in order to obtain the digital image the classical histopathological slide must be done first. And this is the real foundation of the pathology.

**Citation**

Gulczyński J. The Basics of Digital Pathology. Eur J Transl Clin Med. 2021;4(Suppl.2):92.



**SESJA 10A. PATOMORFOLOGIA KLASYCZNA, MOLEKULARNA I CYFROWA**

## **Screening of molecular aberrations based on ALK-positive salivary gland carcinoma studies**

Przesiewowa diagnostyka zaburzeń molekularnych na przykładzie  
ALK-dodatnich raków ślinianki

**Adam Gorczyński**

**Affiliation**

Division of Pathology and Neuropathology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Molecular analysis of neoplasms is carried out in order to establish the diagnosis, assess the prognosis and indicate effective treatment methods. In the conducted study, an immunohistochemical analysis of 182 salivary gland carcinomas was performed to assess the potential overproduction of anaplastic lymphoma kinase (ALK). 8 cases were selected for further examination by fluorescence in situ hybridization (FISH) and next generation sequencing (NGS). In one case novel ALK-MYO18A translocation was established. Further studies performed by other research centers confirmed the presence of other ALK-positive salivary gland carcinomas, characterized by a specific morphology and clinical behavior, thus reaffirming the validity of immunohistochemical screening of large groups of tumors in order to identify new molecularly-defined nosological entities.

**Citation**

Gorczyński A. Screening of molecular aberrations based on ALK-positive salivary gland carcinoma studies. Eur J Transl Clin Med. 2021;4(Suppl.2):93.

**SESJA 10A. PATOMORFOLOGIA KLASYCZNA, MOLEKULARNA I CYFROWA****Two interesting autopsy cases from the beginning of the COVID-19 pandemic**

Dwa ciekawe przypadki sekcyjne z początku pandemii COVID-19

**Kamil Buczkowski, Ewa Iżycka-Świeszewska**

**Affiliation**

Division of Pathology and Neuropathology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Molecular analysis of neoplasms is carried out in order to establish the diagnosis, assess the prognosis and indicate effective treatment methods. In the conducted study, an immunohistochemical analysis of 182 salivary gland carcinomas was performed to assess the potential overproduction of anaplastic lymphoma kinase (ALK). 8 cases were selected for further examination by fluorescence in situ hybridization (FISH) and next generation sequencing (NGS). In one case novel ALK-MYO18A translocation was established. Further studies performed by other research centers confirmed the presence of other ALK-positive salivary gland carcinomas, characterized by a specific morphology and clinical behavior, thus reaffirming the validity of immunohistochemical screening of large groups of tumors in order to identify new molecularly-defined nosological entities.

**Citation**

Buczkowski K, Iżycka-wieszewska E. Two interesting autopsy cases from the beginning of the COVID-19 pandemic. Eur J Transl Clin Med. 2021;4(Suppl.2):94.

**SESJA 10A. PATOMORFOLOGIA KLASYCZNA, MOLEKULARNA I CYFROWA**

## **Introductory data concerning the importance and role of scientific medical autopsy in the opinion of nurses and midwives**

Wstępne dane dotyczące znaczenia i roli sekcji naukowo-lekarskiej w opinii pielęgniarek i położnych

**Sebastian Goertz, Jacek Gulczyński**

**Affiliation**

Division of Pathology and Neuropathology, Medical University of Gdańsk, Gdańsk, Poland

### **Abstract**

Taking into consideration the multiple roles of autopsy in education and medical practice, our goal is to assess how selected groups of medical professionals perceive clinical (non-forensic) autopsies – in this particular study the target groups were nurses and midwives; future inquiries will also involve other groups. The study was performed using printed and online questionnaires consisting of 29 questions divided into three sections: 1) general information about the respondent, 2) her/ his knowledge about the autopsy as a medical procedure, 3) opinions and attitude towards post-mortem examination. The form also included an optional comments section. Up to date 429 nurses and 255 midwives have answered the questionnaire, mostly inhabitants of cities with a population of over 100000 (72,3% of nurses and 56% of midwives). The initial responses show that while among the respondents only 32,7% nurses and 25% midwives have participated in any autopsies during their career or education, a majority of them (62,6% nurses and 59% midwives) consider autopsies to be a potentially effective educational aid and around half of the respondents (52% nurses and 56% midwives) declare readiness to participate personally in an autopsy, should such an opportunity arise, furthermore most of them consider that information included in autopsy reports may improve further therapeutical treatment (75,1% nurses and 80% midwives), as well as nursery management (58,9% nurses and 63% midwives). As this is an ongoing survey, the final results concerning a larger population will be available in the future.

### **Citation**

Goertz S, Gulczyński J. Introductory data concerning the importance and role of scientific medical autopsy in the opinion of nurses and midwives. Eur J Transl Clin Med. 2021;4(Suppl.2):95.



## SESJA 10A. PATOMORFOLOGIA KLASYCZNA, MOLEKULARNA I CYFROWA

**Neural stroma in cancer**

## Podścielisko neuralne w nowotworach

**Ewa Iżycka-Świeszewska****Affiliation**

Department of Pathology and Neuropathology, Faculty of Health Sciences with the Institute of Maritime and Tropical Medicine, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

Neural control of tumor growth constitutes a new hallmark of cancer. Neurobiology of cancer has emerged as a new area of research. There is a growing evidence that central and peripheral nervous system contribute to tumor initiation and progression. Autonomic nervous system controls different aspects of cancer growth. Nerves within neoplastic microenvironment control cellular interactions, angiogenesis, and immune response by neurotransmitters, growth factors, and neuropeptides. The origin of nerves in cancer stroma remains to be established. Axon guidance molecules and neurotrophic factors regulate axonogenesis and neurogenesis. The important form of tumor cells - nervous system relations is perineural invasion (PNI). PNI is one of the ways of cancer spreading and a specific niche, which additionally supports tumor growth. The neural component of tumor stroma is an important part of this complex microenvironment, which may be potentially a new prognostic factor and therapeutic target which may be modified genetically, surgically, or pharmacologically.

**Citation**

Iżycka-Świeszewska E. Neural stroma cancer. Eur J Transl Clin Med. 2021;4(Suppl.2):96.

**SESJA 10B: ŚRODOWISKO A ZDROWIE CZŁOWIEKA****Variability of immunological and metabolic processes in the human gastrointestinal tract**

Zmienność procesów immunologicznych oraz metabolicznych przewodu pokarmowego człowieka

**Katarzyna Zorena**

**Affiliation**

Division of Immunobiology and Environmental Microbiology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

The human gastrointestinal microbiome undergoes modifications throughout life under the influence of endogenous and exogenous factors. The most abundant microbiota is located in the gastrointestinal tract and most of them are bacteria that influence the mechanisms regulating the proper functioning of human systems and organs. The microbiotic hypothesis of the development of chronic diseases assumes that the microbiome, especially in the neonatal period, programs the child's organism and health in later years. The changed microbiota may affect the incorrect activation of immunological and metabolic processes, which results in the development of civilization diseases. Previous studies have shown that in the development of type 1 diabetes (T1D), significant changes take place in the gut microbiota before the systemic symptoms of pancreatic islet autoimmunity appear. These changes appear early in life and have profound effects on the development of the immune system. It is also known that the gut microflora can influence body weight, insulin sensitivity, and sugar and lipid metabolism. These data led to the hypothesis that changes in the gut microflora may contribute to the pathogenesis of obesity and type 2 diabetes (T2D). Many of the world's medical projects e.g. MicroBES or Human Microbiome Project – HMP focus on research on the role of intestinal bacteria for people's health. Particular hopes are placed on the possibility of modification of the intestinal microorganisms in order to treat or prevent obesity and other lifestyle diseases.

**Citation**

Zorena K. Variability of immunological and metabolic processes in the human gastrointestinal tract. Eur J Transl Clin Med. 2021;4(Suppl.2):97.



## SESJA 10B: ŚRODOWISKO A ZDROWIE CZŁOWIEKA

**Antimicrobial resistance and the human microbiome**

## Oporność na substancje przeciwbakteryjne a mikrobiom człowieka

**Monika Kurpas, Katarzyna Zorena****Affiliation**

Division of Immunobiology and Environmental Microbiology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

The human gut microbiome is a complex collection of wide range of microorganisms. Including bacteria, viruses, archaea, and fungi, microbiome has a huge impact on the functioning of our body. Throughout our lives, the gut microbiome is constantly changing under the influence of diet, stress, disease or medications, including antibiotics. Changes in the species structure of the microbiome are already fairly well documented in the literature, but there is still a lack of accurate information on the antibiotic resistance of the bacteria present in microbiome. The environment in which the gut microbiome operates is conducive to the development of competition between microorganisms. The balance between all these microorganisms is quite complex, and bacteria are developing defense mechanism such as antibiotic secretion or antibiotic resistance. Furthermore, in the intestinal microbiome, the acquisition of resistance by microorganisms is influenced by a large amount of antibiotics we are taking, with food and as medication against diseases. This is a reason why microbiome becomes a large source of Antibiotic Resistance Genes (ARGs) for pathogenic bacteria. Overnumber of ARGs is leading to developing of multidrug resistance in pathogenic bacteria. The acquisition of resistance genes by pathogenic microorganisms is facilitated by various genes transfer mechanisms. The presented work is a summary of the current literature on antibiotic resistance and human microbiome.

**Citation**

Kurpas M, Zorena K. Antimicrobial resistance and the human microbiome. Eur J Transl Clin Med. 2021;4(Suppl.2):98.

**SESJA 10B: ŚRODOWISKO A ZDROWIE CZŁOWIEKA**

## **The search for biomarkers of endocrine diseases, exposure to toxic substances and food additives using metabolomics**

Poszukiwanie biomarkerów chorób endokrynnych, narażenia na substancje toksyczne i dodatki do żywności z wykorzystaniem metabolomiki

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### **Abstract**

Metabolomics, along with proteomics, transcriptomics and genomics, is one of the elements of the so-called systems biology. Its main task is the qualitative and quantitative study of low-molecular compounds (metabolites) present in biological system. These metabolites can be measured in cells, tissues or body fluids, and the complete set of compounds contained in a biological sample is called the metabolome. The application of metabolomics as an analytical tool is based on two approaches: targeted profiling and non-targeted profiling. Non-targeted profiling involves the identification and determination of a large number of metabolites belonging to different chemical groups, while the targeted approach focuses on the analysis of the specified compounds (e.g. amino acids, carbohydrates, steroid hormones, fatty acids, etc.). Both strategies make it possible to link the levels of the determined metabolites with disturbed metabolic pathways of these compounds. The development of metabolomics and its application in clinical trials might have an impact on the diagnosis and treatment of diseases such as metabolic and endocrine disorders, identification of disturbed metabolic pathways, the search for new biomarkers of diseases and in nutrigenomics to track changes in metabolism caused by changes in diet. The presented research aims to illustrate the application of metabolomics to select biomarkers of endocrine diseases (adrenal incidentalomas). The determination of biomarkers relating to harmful exposure to toxic substances (tobacco smoke) and the analysis of the impact of selected food additives on the human hormonal profile will also be discussed.

### **Citation**

Kotłowska A. The search for biomarkers of endocrine diseases, exposure to toxic substances and food additives using metabolomics. Eur J Transl Clin Med. 2021;4(Suppl.2):99.

**SESJA 10B: ŚRODOWISKO A ZDROWIE CZŁOWIEKA****Evaluation of dietary exposure to fungicides in women of reproductive age and their impact on the selected hormonal and metabolic parameters**

Ocena narażenia żywieniowego kobiet w wieku rozrodczym na fungicydy i ich wpływu na wybrane parametry hormonalne i metaboliczne

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**Abstract**

Fungicides are biocidal chemical compounds used to kill parasitic fungi. The sources of human exposure to fungicides are dietary and environmental. Due to the presence of phenol groups in the structure of several fungicides, these compounds can bind and activate steroid hormone receptors. Therefore, exposure to these compounds may be associated with the risk of hormone dependent neoplasms, lead to fertility problems, obesity and metabolic disorders. The aim of my study is to evaluate the dietary exposure to fungicides in women of reproductive age and to investigate whether these compounds may have an impact on the selected hormonal and metabolic parameters. In total 329 women of childbearing age, between 18 and 45 years old, were recruited for the study. Venous blood was collected from the subjects between the 6<sup>th</sup> and 10<sup>th</sup> day of the menstrual cycle. Serum hormones and selected metabolic parameters were evaluated. A method for the determination of fungicides has been developed using on GC-MS/MS. The most frequently detected fungicides were: epoxiconazole (in 70% of samples), tebuconazole (in 65% of samples) and fludioxonil and boscalid in 60% of samples. Women with detectable serum imazalil and difenoconazole concentrations had significantly higher body weight compared to those subjects where these compounds were not detected. Differences were also seen in: fasting glucose, insulin and HOMA and triglycerides. Women with detectable captan, boscalid, azoxystrobin had significantly higher serum testosterone concentrations than women in whom a given compound was not detected. The results of my study show that women are exposed to fungicides and that this exposure may lead to metabolic and hormonal derangements.

**Citation**

Berg A, Wolska L. Evaluation of dietary exposure to fungicides in women of reproductive age and their impact on the selected hormonal and metabolic parameters. Eur J Transl Clin Med. 2021;4(Suppl.2):100.



**SESJA 10B: ŚRODOWISKO A ZDROWIE CZŁOWIEKA**

## **Effects of soil supplementation with sewage sludge on changes in the transcriptome of *Brassica napus***

### **Wpływ suplementacji gleby osadem ściekowym na zmiany transkryptomu *Brassica napus***

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#### **Abstract**

The volumes of produced sewage sludge from the wastewater treatment plants (WWTPs) are increasing world-wide. Thus, dewatered sewage sludge had become a common fertilizer for agricultural soils but there are several concerns about the safety of such action. Sewage sludge may contain several groups of contaminants (both organic and inorganic), which can pose adverse effects on soil ecosystems. In this work, we explored the changes in the transcriptome of *Brassica napus* grown on agricultural soil supplemented with sewage sludge. Despite the fact, that the sewage sludge passed all required EU norms (86/278/EEC), the soil supplementation increased the content of heavy metals including lead, zinc, nickel and copper in plants shoots. Transcriptome sequencing showed that such action changes the expression of genes associated with photosynthesis, carbohydrate metabolism and photosystems repair, response to oxidative stress, response to pathogens, response to xenobiotics, and heavy metals, cell death, cell wall structure.

#### **Citation**

Jaskulak M, Rostami S, Zorena K, Vandenbulcke F. Effects of soil supplementation with sewage sludge on changes in the transcriptome of *Brassica napus*. Eur J Transl Clin Med. 2021;4(Suppl.2):101.

**SESJA 10B: ŚRODOWISKO A ZDROWIE CZŁOWIEKA****Microbiological contamination of air and soil around an intensive poultry farm****Zanieczyszczenie mikrobiologiczne powietrza oraz gleb wokół farmy intensywnego chowu drobiu****Marta Potrykus, Lidia Wolska****Affiliation**

Division of Environmental Toxicology, University of Gdańsk, Gdańsk, Poland

**Abstract**

In the public awareness, intensive breeding of animals is a source of significant environmental pollution. Poland is the only country in Europe where the poultry production volume has almost doubled in 2012-2017. Intensive poultry farming is associated with the emission of dust, volatile organic compounds (odors) and pharmaceuticals. An important element of the emission are also biotic pollutants such as microorganisms (fungi, bacteria, viruses, protozoa). Each of these pollutants can affect the health of people in the vicinity of an intensive poultry farm. In 2019, soil and air samples were collected around the intensive poultry breeding building as well as at reference sites in the Warmia-Mazury Voivodeship. The results of the analyzes of the microbiological composition of the air indicate a change in the number of microorganisms both in the soil and in the air between subsequent sampling. There was an approx. 100-fold increase in the number of microorganisms in the soil sampled in summer compared to the soil sampled in winter. The antibiotic resistance of 85 bacterial strains isolated from soil samples was also tested, which indicated the lack of increased antibiotic resistance of strains isolated in the vicinity of the farm compared to strains isolated in reference sites. Preliminary genetic analysis of the microbiological composition of selected air, soil and chicken faeces samples collected in the summer showed the differentiation of the amount of bacterial and fungal taxa appearing between the studied samples. Variability in the level of microbial contamination is also observed throughout the year. The obtained results indicate that there is a need to create consistent standards for the microbiological quality of air around intensive animal husbandry.

**Acknowledgments:** The research was financed from the own funds of the Department of Environmental Toxicology, Medical University of Gdańsk, Gdańsk, Poland.

**Citation**

Potrykus M, Wolska L. Microbiological contamination of air and soil around an intensive poultry farm. Eur J Transl Clin Med. 2021;4(Suppl.2):102.

## SESJA 11A. PRAWA PACJENTA

## Patient's rights in the pharmacotherapy process

### Prawa pacjenta w procesie farmakoterapii

**Agnieszka Zimmermann**

**Affiliation**

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#### Abstract

**Introduction:** Patient's rights should be retained in the course of pharmacotherapy, in particular the right to have access to healthcare services that correspond to the requirements of contemporary medical knowledge, which is to be understood, among other, as access to effective and safe drugs. **Aim:** The purpose of the paper is to analyse patient's rights related to an applied pharmacotherapy, including but not limited to the use of off-label drugs and access to medicinal products not related directly to causes of hospitalization (own drugs of a patient in hospital). The purpose has been to indicate *de lege ferenda* postulates. **Methods:** The author has used the exegesis of legal acts, in particular the Act on Patient's Rights and the Patient's Ombudsman, the analysis of available judicature, and the achievements of doctrine. **Results:** In view of progress in medicine, the need to apply off-label drugs has appeared. No legal regulations are available that give a definition and rules of using off-label drugs, but it should be assumed that it is necessary to inform a patient and obtain his/her consent to a therapy of this type. It should be considered to be violating a patient's rights if a patient is not given information, if no patient's consent is obtained and if the condition of a patient is not monitored. A hospitalised patient has the right to gain access to drugs that are necessary in the course of therapy. If one uses a narrow interpretation, the duty of hospital is to provide only such drugs that are necessary for the performance of healthcare service that underlies admission. However, according to the Ombudsman and the Supreme Administrative Court (Judgement of 28 September 2018, II OSK 1342/18), hospital is obliged to cure a patient comprehensively. Therefore, requiring from patients to take their own drugs to hospital should be recognised as violating patient's right. **Conclusions:** Patient's rights in the process of pharmacotherapy include, among other, the right to information and giving consent to the use of off-label drugs as well as the right to comprehensive care, including of ailments that are not the basis for hospitalization.

#### Citation

Zimmermann A. Patient's rights in the pharmacotherapy process. Eur J Transl Clin Med. 2021;4(Suppl.2):103.



## SESJA 11A. PRAWA PACJENTA

## Patients' rights and hospital video surveillancesystems

### Prawa pacjenta a monitoring w podmiotach leczniczych

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**Affiliation**

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#### Abstract

**Introduction:** Hospital video surveillance should respect patients' right to intimacy and privacy, on the other hand, it may be an important instrument of quality and medical personnel liability assesment in healthcare. **Aim:** This paper aims primarily to examine the problem of collision of patients' rights under the angle of current Polish law regulations and jurisprudence relating to hospital video surveillance systems. In the second place, the purpose of this paper is to assay the adequacy of new legal solutions regarding video surveillance in patient areas, appearing in the project of law on the quality in healthcare and patient safety, which will come into force within the beginning of 2022. **Methods:** Predominantly, legal considerations will be based on dogmatic and functional interpretation of legal regulations on national level. The paper will also discuss relevant jurisprudence, especially the jurisprudence of administrative courts, and pertinent academic literature. **Results:** Despite the fact that administrative judgments presented, so far, a strong leaning for considering hospital in-room cameras as a patients' right violation, the results of the study show that this jurisprudential trend is detached from healthcare reality. Video surveillance and cameras in the patient areas of the hospital can contribute to develop effective therapies based on new technologies, such as ambient intelligence. In addition, it can provide exhaustive evidence for the accuracy and quality of the treatment process. Consequently, they may constitute credible evidence, determining eventual hospital liability for the treatment process. While the privacy of the patient should remain the cornerstone of medical ethics, it should not impede the quality of healthcare, since it would collide with the patient's right to accurate, up-to-date therapeutical process. **Conclusions:** The project of the new law on the quality in healthcare and patient safety may be perceived as a compromise between two patients' rights: right to intimacy and right to high quality healthcare process.

#### Citation

Kubić-Marlewska B. Patient's rights and hospital video surveillancesystems. Eur J Transl Clin Med. 2021;4(Suppl.2):104

SESJA 11A. PRAWA PACJENTA

## Patient's rights in psychiatric therapy

### Prawa pacjenta w terapii psychiatrycznej

**Kamila Piątkowska**

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#### Abstract

**Introduction:** Patients with mental disorders should be particularly protected by the law, because of their vulnerability caused by specific course of illnesses, which may obstruct the communication and social functioning. **Aim:** The aim of the work is the analysis of patient's rights and institutions created by the Mental Health Protection Act in the context of its applications towards patients with mental disorders. **Methods:** The work is based on analysis of the law, which is in force i.e. The Patients' Rights and the Patients Ombudsman Act, The Mental Health Protection Act including legislative solutions enacted due to announcement of epidemic state in Poland. The aforementioned is collated with jurisprudence and doctrine. **Results:** On account of the social stigma of patients with mental disorders, mental disorders itself and even physicians engaging in psychiatry, there is a dire need of application of effective legislative solutions. The weakness of Polish law was revealed due to the announcement of the epidemic state and applying the resolutions, which were meant to protect patients from spreading the epidemics, but in practice it led to the violations of patient's dignity. Also due to the economic difficulties of Polish healthcare the patient right to access the psychiatric healthcare services is unenforceable. The point of discussion is still the effectiveness of the courts' control of the procedure of admitting the patient to the psychiatric hospital without his prior consent – especially during the pandemic. However it must be expressed that Patients Ombudsman creates many initiatives aiming in ceasing the violations and securing patients with mental disorders. **Conclusions:** Taking under consideration Polish legislative and pending epidemic state it is crucial to take care of the rights of patients' with mental disorders and create solutions which will protect them effectively.

#### Citation

Piåtkowska K. Patient's rights in psychiatric therapy. Eur J Transl Clin Med. 2021;4(Suppl.2):105.



## SESJA 11A. PRAWA PACJENTA

## Patients' right to comprehensible information

### Prawo pacjenta do informacji zrozumiałej

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**Affiliation**

Division of Medical and Pharmacy Law, Medical University of Gdańsk, Gdańsk, Poland

#### Abstract

**Introduction:** Each patient has a statutory right to be informed about their health status, patients' rights, as well as the type and scope of health services provided by a healthcare institution. **Aim:** The purpose of this work is to analyse patient's rights to information, including in particular an aspect of patients understanding information obtained from health professionals and healthcare institutions. **Methods:** The work uses an exegesis of the Act on Patients' Rights and the Patients Ombudsman, an analysis of available judicature and an online survey of 289 participants, as well as a study of the clearness of a medical treatment consent form by the use of the Jasnopis application. **Results:** The Act on Patients' Rights and the Patients Ombudsman stipulates that patients must be informed about their health status, rights and the scope of health services. However, apart from persons with special needs, the Act does not set out precisely how that right should be respected. The survey indicates that a physician is a source of information that is chosen most frequently (78%) and most willingly (89%). It is also positive that pharmacies remain a place where patients seek health information very frequently (47% respondents). 23% of respondents admit in the questionnaire that they seek information to verify a diagnosis given by their physician. In addition, 22% of respondents state that they seek health information because they have not obtained it from their physician, and 15% admit that they have obtained information from their physician, but that information is incomprehensible. Therefore, the respondents use other non-medical and often unprofessional sources of information on their own account. 51% of respondents assess health information found in the Internet as satisfactory and 48% obtain such information from their family and friends. It is optimistic, however, that information obtained from advertisements are not recognised by the significant majority of respondents (92%) as a reliable source of health information. **Conclusions:** The patients' right to information can be considered respected only if the patient is informed in a comprehensible way.

#### Citation

Pilarska A. Patients' right to comprehensible information. Eur J Transl Clin Med. 2021;4(Suppl.2):106.

**SESJA 11A. PRAWA PACJENTA**

## Patient's right to respect for privacy and confidentiality in the pharmacy

### Prawo pacjenta do poszanowania intymności i poufności w aptece

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#### Abstract

The patient's right to privacy and confidentiality is one of the fundamental rights deriving from the general human right to dignity. In pharmacy practice, the obligation to ensure discretion it is undoubtedly very important. Privacy when using pharmaceutical services is a must be properly guaranteed. Pharmacists belong to the group of public trust profession in which the obligation of professional secrecy is closely related. This obligation do not exist in polish legislation for pharmacy technicians. In a meanwhile the patient in pharmacy uncovers intimacy secrets. The issue of guaranteeing patient privacy when using pharmaceutical services is rarely discussed in Poland. A study had conducted at the Department of Medical and Pharmaceutical Law to assess the level of compliance with the patient's right to privacy while providing pharmaceutical services in community pharmacies in Poland. The anonymous survey have been used as a research tool. The survey has been completed by 178 employees of public pharmacies, both pharmacy masters and pharmaceutical technicians. The obtained results showed that representatives of pharmacy staff should pay more attention to the patient's right to privacy. In addition, the conditions in Polish pharmacies need to be changed and adapted to provide patients with a greater level of intimacy during pharmaceutical consultations.

#### Citation

Wrzosek N. Patient's right to respect for privacy and confidentiality in the pharmacy. Eur J Transl Clin Med. 2021;4(Suppl.2):107.



## SESJA 11A. PRAWA PACJENTA

## Impact of the extraordinary regulations during state of epidemic on the legal status of the patient in Poland

### Wpływ szczególnych regulacji w stanie epidemii na sytuację prawną pacjenta

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**Affiliation**

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#### Abstract

**Introduction:** Patients' rights, especially the right to access medical services compliant with the current state of medical knowledge delivered with respect for human dignity should be secured by the state in an uninterrupted way. In Poland as of March 2020 there were numerous extraordinary legal provisions and other regulations introduced to combat COVID-19, limiting patient's rights, while the legal basis for such provisions and regulations to be enacted is questioned. **Aim:** This presentation is aimed at analyzing the impact of these extraordinary provisions and regulations enacted during the state of epidemic on fulfilling the patients' rights, taking into consideration the binding laws, jurisprudence and opinions presented by the constitutional bodies such as the Patients' Ombudsman, the Ombudsman, and the Children's Ombudsman in Poland. **Method:** For the purpose of this presentation the laws of Poland were interpreted, in particular the 1997 Constitution of the Republic of Poland, the 2008 Law on Prevention and Eradication of Contagious Human Diseases and the implementing rules contained in the Council of Ministers' ordinances and the Minister of Health ordinances, the 2008 Law on Patient's Rights and the Patient's Ombudsman. The opinions of the legal doctrine and jurisprudence were analyzed accordingly. **Results:** As of March 2020, many cases of patient's rights infringements or limitations were reported, which were attributed to the state of pandemic necessary measures. Healthcare system is managed with the use of implementing regulations of a questionable legal background. Moreover, many of the regulations are non-binding by design, or formulated as instructions or recommendations. This situation is versatile, as it affects both prevention and eradication of the COVID-19 epidemic, and other healthcare services in almost all fields. This may result in compensation claims, based on infringements of patients' rights, some of which may be considered a popular claim. **Conclusions:** Authorities and organizations responsible for healthcare services provision, public administration in particular, should carry out necessary analytic effort with regard to the legal provisions introduced within last 18 months, in order to evaluate these laws. These contradicting the Constitution should be amended or considered void to exclude possibility of violation of patients' rights to healthcare, dignity and life.

#### Citation

Zagłoba M. Impact of the extraordinary regulations during state of epidemic on the legal status of the patient in Poland. Eur J Transl Clin Med. 2021;4(Suppl.2):108.





**SESJA 11B. PASOŻYTY I PARAZYTOZY WSPÓLNE DLA LUDZI I ZWIERZĄT**

## **Seroprevalence of *Toxoplasma gondii* among sylvatic rodents in Poland**

### Seroprewalencja *Toxoplasma gondii* wśród gryzoni leśnych w Polsce

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**Affiliation**

Division of Tropical Parasitology, Medical University of Gdańsk, Gdańsk, Poland

#### **Abstract**

There is currently considerable interest in understanding the transmission of pathogens and the range of different variables that influence infection dynamics. Wild rodents pose a particular threat to human communities because they constitute the most abundant and diversified group of all living mammals. *Toxoplasma gondii* is an intracellular Apicomplexan parasite with a broad range of intermediate hosts, including humans and rodents. Rodents are considered to be reservoirs of infection for their predators that include cats, pigs and dogs. We conducted a multi-site, long-term study on *T. gondii* in northeastern Poland. Our objectives were to monitor the seroprevalence of *T. gondii* in the four abundant vole species found in the region (*Myodes glareolus*, *Microtus arvalis*, *Microtus agrestis*, *Alexandromys oeconomicus*) and to assess variation in seroprevalence attributable to both intrinsic and extrinsic factors that were quantified. A bespoke enzyme-linked immunosorbent assay was used to detect antibodies against *T. gondii*. We detected *T. gondii* antibodies in the sera of all four rodent species with an overall seroprevalence of 5.5% (3.6% for *M. glareolus* and 20% for other vole species). Seroprevalence in bank voles varied significantly between host age and sex). These results contribute to our understanding of the distribution and abundance of *T. gondii* in voles in Poland and confirm that *T. gondii* circulates also in *M. glareolus* and *Microtus/Alexandromys spp.* Therefore, they may potentially play a role as reservoirs of this parasite in the sylvatic environment.

#### **Citation**

Nowicka J. Seroprevalence of *Toxoplasma gondii* among sylvatic rodents in Poland. Eur J Transl Clin Med. 2021;4(Suppl.2):109.



## SESJA 11B. PASOŻYTY I PARAZYTOZY WSPÓLNE DLA LUDZI I ZWIERZĄT

**Human infection with *Ascaris* spp. in the light of environmental and genetic research****Zarażenie ludzi *Ascaris* spp. w świetle badań środowiskowych i genetycznych****Monika Rudzińska****Affiliation**

Division of Tropical Medicine and Epidemiology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

*Ascaris lumbricoides* and *Ascaris suum* are soil-transmitted helminths of global importance. According to WHO estimates, 807 mln–1.2 billion people worldwide are infected with *A.lumbricoides*, especially in areas with warm and moist climates and poor sanitation. Manifestations of ascariasis depend on worm burden and include acute and chronic symptoms as a result of larval migration through the pulmonary tissue and due to adult worm's invasion in the intestine. Entangled adult worms can lead to mechanical intestinal obstruction. Migrating adult worms may cause occlusion of the biliary or pancreatic tract, appendicitis, or nasopharyngeal expulsion. *A.suum* can also infect humans. These two indistinguishable nematodes (their eggs too) are very closely related, and the hybrids have been identified; therefore their status as distinct, reproductively isolated species is under discussion. It is not known how many people worldwide are infected with *A.suum*. Poland is the sixth producer of pork in the EU with a pig population of just over 11 million pieces. Despite the significant importance of pig production in Poland, testing of pig herds for parasites are not carried out, however, literature data show that *A.suum* is the second most common pig parasite, estimated at 40-60%. Eggs are found in pig manure and in sewage sludge from which fertilizers are made. The scale of ascariasis in Poland is not known (estimated at < 1%) although it is one of the most frequently suspected parasitosis, often overdiagnosed and unnecessarily treated. The aim of the presentation is to draw attention to the risk of *A.suum* infection related to pig breeding, the need to test pig herds for parasites, and the lack of data on human ascariasis due to the cancelation of obligatory reporting of these infections.

**Citation**

Rudzińska M. Human infection with *Ascaris* spp. in the light of environmental and genetic research. Eur J Transl Clin Med. 2021;4(Suppl.2):110.

**SESJA 11B. PASOŻYTY I PARAZYTOZY WSPÓLNE DLA LUDZI I ZWIERZĄT**

## **Dirofilariasis – barely known parasitic disease transmitted by mosquitoes - a growing health problem in Poland**

Dirofilarioza – mało znana choroba pasożytnicza przenoszona przez komary - wzrastający problem zdrowotny w Polsce

**Natalia Kulawiak<sup>1</sup>, Beata Szostakowska<sup>2</sup>, Katarzyna Sikorska<sup>1</sup>**

### **Affiliations**

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### **Abstract**

Dirofilariasis is a rare but emerging zoonotic disease which is transmitted by females of various mosquito species. It occurs in many countries around the world with the exception of areas of cool climate. In Europe, the disease is most common around the Mediterranean Sea. Most cases are diagnosed in countries such as Greece, France and Italy, but now more and more cases are also recorded in Central and Eastern Europe, including Poland. This is mainly due to global warming, which helps the spread of mosquitoes. The most commonly seen species in human patients are *Dirofilaria repens* and *D. immitis*, naturally occurring mainly in dogs, which serve as reservoirs of parasites. Human is an accidental dead-end host and becomes infected by the penetration of the invasive larvae through the skin when a mosquito is collecting blood. Dirofilariasis most often manifests as subcutaneous nodules and changes in the eyeball (caused mainly by *D. repens*) or as pulmonary disease (caused mainly by *D. immitis*). The invasion may also be asymptomatic. In humans, the treatment of choice is surgical removal of lung granulomas and nodules under the skin. Due to the often insufficient knowledge about human dirofilariasis, diagnosis of this disease may be difficult in everyday medical practice. All cases of human dirofilariasis, especially in countries where the disease is currently uncommon, should be recorded for epidemiological purposes.

### **Citation**

Kulawiak N, Szostakowska B, Sikorska K. Dirofilariasis – barely known parasitic disease transmitted by mosquitoes - a growing health problem in Poland. Eur J Transl Clin Med. 2021;4(Suppl.2):111.



## SESJA 11B. PASOŻYTY I PARAZYTOZY WSPÓLNE DLA LUDZI I ZWIERZĄT

**Nematodes of the family *Anisakidae* – parasites of marine organisms pathogenic for humans**

Niczenie z rodziny *Anisakidae* – pasożyty organizmów morskich chorobotwórcze dla człowieka

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**Affiliation**

Division of Tropical Parasitology, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

The nematodes of the family *Anisakidae* are parasites of marine organisms, widespread all over the world. Life cycle of these nematodes involves marine invertebrates and fish as intermediate/paratenic hosts, and marine mammals as definitive hosts. As result of consumption of raw or semi-raw fish containing live larvae of parasites, humans may develop a disease called anisakidosis. The first symptom of anisakidosis which appears within 24 h after swallowing the larva is not specific and resemble symptoms of other gastrointestinal diseases, for example gastric ulcers, appendicitis, and Crohn's disease. The estimated number of all cases of anisakidosis is around 76,000, most of which have been detected in the residents of Japan and South Korea, which results from tradition of eating raw fish dishes. However, the disease is now an emerging disease in other parts of the world, including Europe. The diagnosis of anisakidosis is based on the detection of the nematode during endoscopy, and the most common treatment is mechanical removal during this examination. In undiagnosed cases, the larvae usually die spontaneously within about 2 weeks and are eliminated from digestive tract. The first case of anisakidosis in Poland was described in 2020. This disease is still little known among doctors in our country. Probably there were more cases of anisakidosis in Poland, but the disease remained undiagnosed. Therefore, it is important that in the medical history of patients complaining of sudden abdominal pain, doctors ask about eating semi-raw fish dishes and in such cases order an urgent endoscopic examination.

**Citation**

Szostakowska B. Nematodes of the family *Anisakidae* – parasites of marine organisms pathogenic for humans. Eur J Transl Clin Med. 2021;4(Suppl.2):112.

SESJA 13. FIZJOTERAPIA

## Painful shoulder – structural and functional relationships in the musculo-skeletal system, from assessment to therapy

Bolesny bark – zależności strukturalno-funkcjonalne w układzie ruchu, od oceny do terapii

Krzysztof Kassolik<sup>2</sup>, Elżbieta Rajkowska-Labon<sup>1</sup>, Donata Kurpas<sup>3</sup>, Jerzy Gielecki<sup>4</sup>

### Affiliations

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<sup>2</sup>Faculty of Physiotherapy Wrocław University of Health and Sport Sciences, Poland,

<sup>3</sup>Family Medicine Department, Wrocław Medical University, Poland

<sup>4</sup>Department of Anatomy, University of Warmia Mazury in Olsztyn, Poland

### Abstract

**Introduction:** Painful shoulder syndrome is a complex diagnostic and therapeutic problem. It is caused both by a very complex anatomical structure, biomechanics as well as the structural relationship between muscles and vessels, nerves. A necessary condition for the inclusion of physiotherapy in the treatment process is the correct assessment of both the distribution of resting muscle tension within the shoulder girdle and the determination of the potential influence of individual nerves and arteries on their function. Long-lasting abnormal muscle tension caused, among others, by disturbances in the innervation and blood supply may further affect the disturbance of biomechanics and initiate degenerative processes in the shoulder and neck. Therefore, in rehabilitating the patient at the initial stage of the development of ailments, it is necessary to take into account the mechanisms restoring homeostasis in tissues affected by disturbed distribution of resting tension and loss of elasticity. The intention of such an intervention is to slow down the degenerative processes and gradually progressive loss of the quality of movement and, consequently, the proper function of the joint. Therapy should include deliberate physiotherapeutic action (research, rehabilitation, education, physioprophylaxis) in order to inhibit the above-mentioned processes. **Aim of the study:** To present the structural and functional relationships in the painful shoulder syndrome in order to determine which muscles show abnormal resting tension and decreased flexibility. **Conclusions:** Control of therapy effectiveness during and immediately after therapy. Ongoing monitoring of pain and functional status.

### Citation

Kassolik K, Rajkowska-Labon E, Kurpas D, Gielecki J. Painful shoulder – structural and functional relationships in the movement system, from assessment to therapy. Eur J Transl Clin Med. 2021;4(Suppl.2):113.



## SESJA 13. FIZJOTERAPIA

## Painful hip – structural and functional relationships in the musculo-skeletal system, from evaluation to therapy

Bolesne biodro – zależności strukturalno-funkcjonalne w układzie ruchu, od oceny do terapii

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### Abstract

**Introduction:** The hip joint is one of the most prone to degenerative joint processes. The inclusion of physiotherapy in the treatment of degenerative changes is related to the question: at what stage of clinical advancement should this therapy be taken into account in order to show the greatest effectiveness? According to the authors of the study, actions should be taken before irreversible structural changes occur within the joint. At the initial stage of the development of the degenerative process, the first symptoms may not be characteristic and related to a reduction in muscle flexibility. Abnormal muscle tone will further disrupt biomechanics and consolidate the degenerative process. Therefore, in rehabilitating the patient at the initial stage of the development of ailments, it is necessary to take into account the mechanisms that restore homeostasis in tissues affected by disturbed distribution of resting tension and loss of elasticity. The intention of such an intervention is to slow down the degenerative processes and gradually progressive loss of quality of movement and, consequently, the proper function of the joint. Therapy should include deliberate physiotherapeutic action (research, rehabilitation, education, physioprophylaxis) in order to inhibit the above-mentioned processes. **Aim of the study:** To present the structural and functional relationships in pain in the hip joint in order to determine which muscles show abnormal resting tension and decreased flexibility. **Conclusions:** Control of therapy effectiveness during and immediately after therapy. Ongoing monitoring of pain and functional status.

### Citation

Rajkowska-Labon E, Kassolik K, Kurpas D. Painful hip – structural and functional relationships in the movement system, from evaluation to therapy. Eur J Transl Clin Med. 2021;4(Suppl.2):114.

## SESJA 13. FIZJOTERAPIA

# The use of the structural and functional complexities of the musculoskeletal system to create preventive programs in selected ailments of the musculoskeletal system

Wykorzystanie złożoności strukturalno-funkcjonalne narządu ruchu do tworzeniu programów profilaktycznych w wybranych dolegliwościach narządu ruchu

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### Abstract

**Introduction:** Properly conducted physiotherapy, also in the area of the musculoskeletal system, is based on the proper knowledge of anatomy, understanding the mutual structural relationships (myofascial-vascular-nerve), affecting biomechanics and then the function of the joint. More research is still needed to better understand the exact anatomy of muscles, fascia, vessels, nerves and their specific function and contribution to the pathogenesis of disorders. The authors of the work, based on previously prepared recommendations for the needs of the National Health Fund, present proposals for model diagnostics and therapy based on the example of pain in the hip and shoulder joints. They also indicate the need for comprehensive physiotherapy and emphasize the importance of self-therapy and prophylaxis in the effectiveness of preserving the effects of therapy for the aforementioned ailments. **Objective:** Presentation of the model for the development of structures with structural and functional relationships in the therapy and prevention of pain in the hip and shoulder joints at an early stage of changes. **Conclusions:** Restoring proper relations in the distribution of myofascial tension - a way to reduce pain and improve joint function. Improving the availability of therapy for pain in the hip and shoulder joints including the patient in the active therapy process.

### Citation

Kassolik K, Rajkowska-Labon E, Gielecki J, Kurpas D. The use of the structural and functional complexities of the musculoskeletal system to create prophylactic programs in selected ailments of the musculoskeletal system. Eur J Transl Clin Med. 2021;4(Suppl.2):115.



## SESJA 13. FIZJOTERAPIA

## The structural-anatomical-functional relationship of lumbo-pelvic-hip complex in a treatment of dysmenorrhea

Zależności strukturalno-anatomiczno-funkcjonalnych kompleksu lędźwiowo-biodrowo-miednicznego w terapii bolesnych miesiączek

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### Abstract

Dysmenorrhea, or menstrual pain is a common problem that may concern up to 94% of women. Despite many studies on dysmenorrhea, the etiopathogenesis of this condition has not yet been fully investigated. However, it is known that dysmenorrhea occurrence is linked to elevated prostaglandin secretion and other inflammatory factors; furthermore, genetic factors may be associated with a higher susceptibility to this disorder. Dysmenorrhea is commonly managed by pharmacological approaches, mainly by non-steroidal inflammatory drugs which inhibit prostaglandin synthesis. Available data indicates that manual therapy could relieve dysmenorrheal symptoms. Our and other's research shows that the lumbo-pelvic-hip complex structures are important during the treatment of dysmenorrhea. The therapeutic process could include spinal manipulation and other techniques, which normalize tension of muscles attached to the lumbar spine, sacrum bone and diaphragm, as well as muscles of the anterior abdominal wall. This technique should help to equalize intra-abdominal pressure. The action mechanism of manual therapy is not fully investigated yet. It is possible that manual techniques could have an impact on decreasing prostaglandin levels, increasing serotonin and endorphins secretion and also on vagus nerve stimulation.

### Citation

Barcikowska Z, Rajowska-Labon E, Grzybowska M.E, Hansdorfer-Korzon R, Zorena K. The structural-anatomical-functional relationship of lumbo-pelvic-hip complex in a treatment of dysmenorrhea. Eur J Transl Clin Med. 2021;4(Suppl.2):116.



SESJA 13. FIZJOTERAPIA

## Strength training program for a patient with hemophilia A and an inhibitor with a new prophylactic treatment. Haemophilic athlete – a case report

Program treningu siłowego u pacjenta z hemofilią A i inhibitorem w trakcie nowego leczenia profilaktycznego.  
Sportowiec z hemofilią – opis przypadku

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<sup>3</sup>Department of Hematology and Transplantology, Medical University of Gdańsk, Gdańsk, Poland

### Abstract

**Background:** Currently, patients with hemophilia and inhibitor are being offered therapy, including a tissue factor pathway inhibitor (TFPI). The new prophylactic treatment may give new opportunities. This study is aimed to assess the safety and effects of a strength training program in a patient with an inhibitor. **Description:** A 20 years old patient with severe haemophilia A with an inhibitor participated in a 6-week strength training program. The strengthening program consisted of 7 exercises involving limb and trunk muscles. A qualitative assessment of movement patterns was performed using the Functional Movement Test. The Dynamic Balance was measured by the Y-Balance Test, whereby the power of lower extremities was measured by Counter Movement Jump. The Quality of Life Index was done by survey to assess the perceived overall quality of the patient life. The exercise fatigue after each training was measured with the Borg scale. **Outcomes:** After the intervention during treatment with the new drug, the patient's quality of life increased, especially in terms of health and function, also, the power of the lower limbs increased. There were no bleeding episodes during the intervention and after a 3-month follow-up, however, there was an adverse effect in the form of decreased range of motion of the patient's ankle joints. **Conclusions:** The proposed program during the application of the new prophylactic treatment seems to be safe and effective in improving quality of life and increasing lower limb power in a haemophilic patient with an inhibitor. However, randomized clinical trials are needed to confirm the results.

### Citation

Wilczyński B, Juszczyk D, Zorena K, Mital A. Strength training program for a patient with hemophilia A and an inhibitor with a new prophylactic treatment. Haemophilic athlete – a case report. Eur J Transl Clin Med. 2021;4(Suppl.2):117.



## SESJA 14. PSYCHOLOGIA ZDROWIA

**Contemporary challenges in psychology**

## Współczesne wyzwania psychologii

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**Abstract**

The subject of this presentation are selected challenges currently facing psychology. Two subject areas will be presented: problems of the emerging adulthood along with the challenges of delayed maturity to take up life challenges and irregularities in shaping the processes of behavior control and self-regulation leading to unfavorable life events. These issues are interrelated, and their coexistence leads to a decrease in the quality of life, the inability to achieve life goals and build satisfying relationships.

**Citation**

Błażek M. Contemporary challenges in psychology. Eur J Transl Clin Med. 2021;4(Suppl.2):118.



**SESJA 14. PSYCHOLOGIA ZDROWIA**

## **Psychology in medicine and healthcare**

### **Psychologia w służbie medycyny**

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#### **Abstract**

According to the World Health Organization's definition of health, it is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. This biopsychosocial approach has overtaken the biomedical paradigm in which health was basically described as the presence or absence of illness. Thanks to these changes, we cannot underestimate the role of psychologists in medicine and healthcare. Psychology, defined as a behavioral health discipline, may be crucial for understanding the overall concept of health and illness. Psychologists assess, diagnose and support. They play a major role in promoting health behavior and improving patients' quality of life. Moreover, psychologists are able to look above all the subjectivity of patients and give the healthcare and healthcare professionals a human-centered perspective. This is why we have to emphasize the important role of psychology in various fields of medicine and normalize the presence of psychologists in multidisciplinary medical teams. The non-physical perspective will be beneficial for both sides – patients and not surprisingly also for physicians.

#### **Citation**

Stańska A. Psychology in medicine and healthcare. Eur J Transl Clin Med. 2021;4(Suppl.2):119.

**SESJA 14. PSYCHOLOGIA ZDROWIA****Assessment of physical activity of people with sedentary work based on the IPAQ questionnaire and data from accelerometers**

Ocena aktywności fizycznej osób o siedzącym trybie pracy na podstawie kwestionariusza IPAQ i danych z akcelerometrów

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**Abstract**

The aim of the study was to measure the physical activity of people with sedentary work and to compare their physical activity with WHO (World Health Organization) recommendations-minimum 150 minutes of moderate physical activity per week. The physical activity was measured by an Actigraph Gt3X accelerometer. The accelerometric method was compared with the short version of the International Physical Activity Questionnaire – IPAQ. The study involved 45 respondents aged 20-59, with a BMI of 18.4-37.3 kg / m<sup>2</sup>, from cities over 100,000 inhabitants, cities below 100,000 inhabitants and villages in the Pomorskie and Mazowieckie voivodships. Women constituted 62% of the respondents. The respondents worked in a sedentary mode from 100 to 200 hours a month. The time of measurement was 7 days – 24 hours. Despite of sedentary work, over 90% of respondents complied with the physical activity recommendations of WHO. It was observed a correlation between light activity and age of participants. Comparing the IPAQ questionnaire and accelerometry, it was observed an overestimation of the intense activity in the questionnaire and an underestimation of the moderate activity was found. The last correlation probably was a result of the fact that the respondents confused intensive and moderate activity, as indicated by the authors of other studies. When comparing the values obtained from both tools, a positive correlation was found between them. Despite the statement that the values in the IPAQ questionnaire are overestimated in relation to the measurement by Actigraph, the questionnaire correctly indicated the trend.

**Citation**

Borkowska A. Assessment of physical activity of people with sedentary work based on the IPAQ questionnaire and data from accelerometers. Eur J Transl Clin Med. 2021;4(Suppl.2):120.

**SESJA 14. PSYCHOLOGIA ZDROWIA****Fatigue, anxiety and depression after undergoing COVID-19****Zmęczenie, lęk i depresja po przejściu COVID-19****Agata Zdun-Ryżewska, Magdalena Błażek****Affiliation**

Division of Quality of Life Research, Medical University of Gdańsk, Gdańsk, Poland

**Abstract**

The aim of our study was to evaluate the mental functioning of people who underwent COVID-19 at different time intervals. After the project was approved by the Independent Bioethical Committee in Gdańsk, people gathered in online groups devoted to the issue of COVID-19 were invited to the research. The pilot version of the study was attended by 59 people who underwent COVID-19 at various degrees of severity. Most of the respondents completed the questionnaires a few months after the onset of the disease, 47% of the surveyed group feel that they have not returned to the condition they had before the disease. In addition to the self-designed survey, the Chalder Fatigue Questionnaire (CHFQ-PL) was used, and the HADS-M for anxiety and depression measurement. Higher fatigue was associated with the time elapsed since the disease (the longer the time, the less fatigue), having comorbidities, but also more frequent adherence to recommendations and greater confidence in the effectiveness of vaccination against COVID-19. Experiencing symptoms persistent after undergoing COVID-19 and subjectively assessed as worse current health status was associated with higher anxiety and higher irritability of the participants. The severity of depressive symptoms correlated with lower satisfaction with health care activities during the transition of the disease, poorly assessed health status and currently experienced deterioration of sleep quality. People characterized by higher fatigue, anxiety and depression significantly more often used pharmaceutical supplements. The longer the recovery time after COVID-19 transition to the subjectively-assessed "good form" before falling ill, the greater the likelihood of experiencing increasing anxiety and depression symptoms.

**Citation**

Zdun-Ryżewska A, Błażek. Fatigue, anxiety and depression after undergoing COVID-19. Eur J Transl Clin Med. 2021;4(Suppl.2):121.



## SESJA 14. PSYCHOLOGIA ZDROWIA

## Do mothers of adolescents diagnosed with depression also suffer with depressive symptoms?

Czy matki nastolatków z rozpoznaniem zaburzeń depresyjnych również ujawniają objawy depresji?

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### Abstract

**Introduction:** Depression and suicide risk rates are increasing in adolescents. However, the possible association between adolescent depression and maternal psychopathology is still a matter of debate. The study aimed at assessing the presence, profile and severity of depressive symptoms as well as history of psychiatric disorders in mothers of adolescent depressed patients (MADP). **Patients and methods:** 116 children with a diagnosis of depression and their mothers participated in the study. 58 patients, aged 15-19, were recruited from Psychiatric Daily Care for Teenagers in Gdańsk Health Centre. Control group (n = 58) was matched to the clinical group in terms of age, sex and overall intellectual function. Both mother groups were matched in terms of age and education. Maternal depressive symptoms were assessed with Beck Depression Inventory – 2nd edition (BDI-II) and Depression Assessment Questionnaire (DAQ). DAQ is a Polish scale that consists of 75 statements grouped into 6 subscales. **Results:** In MADP history of psychiatric disorders was positive in 67% of cases. MADP presented with significantly more depressive symptoms in both BDI-II and DAQ. Almost all aspects of depressive symptomatology, such as feelings of guilt and anxiety, suicidal thoughts and pessimism, cognitive deficits and energy loss, psychosomatic symptoms and loss of interest, were present in MADP. Of note, 8% of MADP reported alarmingly severe depressive symptoms. **Conclusions:** As MADP also present with depressive symptomatology, diagnosis and therapy should address the whole family system and not only the adolescent. In Polish healthcare system, too little attention is paid to family interventions.

### Citation

Urbańska-Grosz J, Walkiewicz M, Sitek E.J. Do mothers of adolescents diagnosed with depression also suffer with depressive symptoms? Eur J Transl Clin Med. 2021;4(Suppl.2):122.

**SESJA 14. PSYCHOLOGIA ZDROWIA**

**Sociodemographic factors, stress reaction, health related behavior, locus of control and quality of life and sexual attractiveness of women with breast cancer facing treatment during the COVID pandemic**

Czynniki socjo-demograficzne, reakcja na stres, zachowania zdrowotne, jakości życia oraz poczucie atrakcyjności kobiet z nowotworem piersi leczonych podczas pandemii COVID

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**Abstract**

The breast plays a significant role in the quality of a woman's life. It serves not only to feed the newborn but is also associated with the patient's sense of attractiveness, aesthetics, sexuality and gender identity. As a result, breast cancer is a crisis situation in a person's life, which leads to numerous psychological consequences that would differ when age of the patient, marital/partner status, and the socio-economic situation are taken into account. The chosen treatment strategy also leads to numerous changes in the body. The change in the organ directly related to the intimate sphere of a woman leads, among others, to decreased self-esteem, social isolation, symptoms of depression, avoidance of closeness and sexual contact with a partner, difficulties in experiencing pleasure in sexual contacts and lack of acceptance of one's own body. The primary aim of the presented study was to find out how the breast cancer, age, marital status, and some other characteristics as well as locus of control as a psychological variable effect the quality of life including emotional and sexual functioning of the patient during COVID pandemic. The study was conducted on 120 women with malignant breast cancer. The results are discussed using the Pandemic Management Theory (PMT) and show that having problems with access to medical assistance and rehabilitation influence women' psychological functioning and their activity. As a result, the recovery process, both somatically and emotionally, is prolonged.

**Citation**

Manterys K, Błażek M, Kowalczyk A. Sociodemographic factors, stress reaction, health related behavior, locus of control and quality of life and sexual attractiveness of women with breast cancer facing treatment during the COVID pandemic. Eur J Transl Clin Med. 2021;4(Suppl.2):123.

**SESJA 14. PSYCHOLOGIA ZDROWIA****Comparison of stress reduction techniques: listening to favourite music vs. Wim Hof's deep breathing method**

Porównanie technik redukcji stresu: słuchanie ulubionej muzyki vs. metoda głębokich oddechów Wima Hofa

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**Abstract**

The WHO describes stress as the "disease of the 21st century", emphasizes that it can contribute to over 50% of medical visits worldwide. According to the research, students are one of the groups particularly exposed to stressful stimuli. The purpose of our study is to compare two stress reduction techniques - listening to your favourite music and the method based on deep breathing, created by Wim Hof. In previous studies, the "deep breathing method" has shown effectiveness in attempts to reduce stress in response to a stressful thermal stimulus. However, there are insufficient data to recommend the use of this technique in everyday stressful situations. Demonstrating the effectiveness of this method would enable stress reduction without the use of special equipment, in any situation, place and time, which is of particular importance in times of social isolation due to COVID-19. Our study group consisted of female students at the age of 18-26 who were divided into three groups (control, music preferred, deep breaths). The entire procedure was carried out on the ZOOM platform. The participants did not know the true purpose of the experiment. Each of the three groups was subjected to a stressor (saying aloud numbers 7 smaller than the previous number, starting from 1000, for 2 minutes) and then, in accordance to the assigned group, an attempt was made to reduce the stress. Stress data was collected twice by completing a questionnaire before and after the stress reduction test.

**Citation**

Redo J, Staruch J. Comparison of stress reduction techniques: listening to favourite music vs. Wim Hof's deep breathing method. Eur J Transl Clin Med. 2021;4(Suppl.2):124.





**SESJA 14. PSYCHOLOGIA ZDROWIA**

## **The role of family resilience in adaptation to crisis**

### **Rola prężności rodzinnej w adaptacji do kryzysu**

**Natalia Nadrowska**

**Affiliation**

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#### **Abstract**

The contemporary approach to family therapy describes the processes that take place in the family and support treatment. Family resilience processes, such as communication and problem solving, patterns of organizing family life, and the belief system, enable the family to survive crisis times of treatment and disease and also promote recovery or adaptation to disease. Communication, making sense of adversity, and collaboration appear to be the key processes for treatment. Providing clear, consistent, and non-ambivalent information is characteristic of an efficient communication process. It is also important for the family to understand the causes of a difficult situation, give it meaning and assess their ability to cope. Collaboration in problem-solving, on the other hand, will be a process that will improve interactions not only between patients and doctors, but also between patients and their families, or between patients' families and hospital staff. Significant for the approach to family resilience is also the assumption that there is a change in the use of specific processes by the family in terms of both the stage of family life and the crisis phase. In the initial stage, the family may be overwhelmed by negative and unacceptable information about the health condition, while at another stage it may be full of strength and willingness to make new efforts to fight the disease. Therefore, the identification of the stage of the crisis caused by the disease in which the family is located becomes extremely important in the assessment of cooperation with the family.

#### **Citation**

Nadrowska N. The role of family resilience in adaptation to crisis. Eur J Transl Clin Med. 2021;4(Suppl.2):125.



## SESJA 14. PSYCHOLOGIA ZDROWIA

**Predictive processing in auditory perception**

## Przetwarzanie predykcyjne w percepcji słuchowej

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**Abstract**

Audition is a crucial sense for humans, as it enables communication and helps with orientation in the world. During audition, large amounts of information are extracted from a limited amount of data produced by the auditory apparatus. This points to sophisticated cognitive computations that are performed by the brain to enable feats like spatial localization of sounds, voice recognition, music perception or filtering out relevant information in noisy environments. In recent years, predictive processing emerged as one of dominant frameworks in the study of perception. Predictive processing proposes that perception is an active, hierarchical and probabilistic process of making predictions about future sensory states. These predictions form a generative model of the internal milieu of the organism and the world surrounding it. If incoming sensory stimuli are consistent with the model, perception is successful. If not, prediction errors are propagated throughout the system in order to change the model. The aim of current research is to look for empirical evidence in support of predictive processing in auditory perception. This can be achieved using data from electroencephalography and magnetoencephalography in combination with computational modelling techniques.

**Citation**

Basiński K. Predictive processing in auditory perception. Eur J Transl Clin Med. 2021;4(Suppl.2):126.



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