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*Experimental Study***Propranolol and in vitro reactivity of urinary bladder smooth muscle in guinea pigs**

Mokry J, Nosalova G, Jakubesova M 151
 Propranolol significantly influenced in vitro reactivity of urinary bladder smooth muscle to acetylcholine in guinea pigs. Comparing the influence of oxybutynin (drug used for the treatment of overactive bladder disease), the authors have found, that oxybutynin caused a significantly higher decrease of the reactivity to acetylcholine than propranolol.

*Clinical Studies***The significance of clinical markers in the prediction of hemodynamic and cardiac complications of capnoperitoneum in patients at risk**

Janik J, Sutiak L, Pullmann R, Lojdlova M, Mistuna D, Mikolajcik A 155
 Peritoneal insufflation of CO₂ in laparoscopic surgery can influence the circulatory homeostasis. Our investigation of peroperative clinical and biologic markers of hemodynamics and neuroendocrine response to operative stress and development of CO₂ peritoneum has proved that the course of laparoscopic operations in patients in the risk group of ASA III-IV and NYHA III does not necessarily have to be deteriorated by complications. It can be assumed that increased values of biologic markers regulate the neurohumoral response in the physiologic range and do not predict a severe CVS dysfunction within its course.

Methicillin-resistant *Staphylococcus aureus*: Comparison of susceptibility test methods with *mecA* gene analysis for determining oxacillin (Methicillin) resistance in our clinical isolates

Cekovska Z, Panovski N, Petrovska M 163
 In conclusion, for the rapid detection of MRSA, *mecA* gene based PCR appears to be promising. Since variations among the methods exist and no acceptable guidelines are formulated, a combination of conventional methods, including either 3 µg of oxacillin/ml. in Mueller Hinton broth or one of the screen agar plates, alone or with PCR should be the method of choice for the detection of MRSA.

Heart rate variability changes in children after cardiac transplantation

Havlicekova Z, Jurko Jr A 168
 Total heart rate variability (described by triangular index and SD parameter) and parameters describing parasympathetic activity (pNN50 and rMSSD) were decreased in both patients after cardiac transplantation. Considering the still unclear mechanism of heart innervation, it is necessary to continue in the research. Authors are planning to check the changes in the future also by means of frequency analysis of heart rate variability.

The role of melatonin in the neurodegenerative diseases

Olakowska E, Marcol W, Kotulska K, Lewin-Kowalik J 171
 Synthesis and release of melatonin is inhibited by light. The biological activity of this enzyme is associated with its receptors – ML1 and ML2. Melatonin plays a role in the biologic regulation of circadian rhythms, sleep, mood, reproduction, tumor growth and aging. It may also modulate the activity of various receptors in cancer cells.

Long-term (56-week) oral administration of probiotic *Enterococcus faecium* M-74 decreases the expression of sICAM-1 and monocyte CD54, and increases that of lymphocyte CD49d in humans

Hlivak P, Jahnova E, Odraska J, Ferencik M, Ebringer L, Mikes Z 175
 The key role of cell adhesion molecules (CAM) in atherosclerosis has been discovered only recently. We observed significant changes in CAMs expression in terms of a decrease in sICAM-1, CD54 on monocytes and CD11b on lymphocytes after one-year administration of *Enterococcus faecium* M-74 in humans. Anti-adhesion-aimed therapeutic modalities may provide the future approach to prevention and treatment of cardiovascular diseases. Application of probiotics may be part of such strategies.

*Case Reports***Non-recognized cause of intrathoracic bleeding**

Krska Z, Miler I, Vyborny J, Horejs J, Svab J, Cermak S 182
 The authors present a case report of bleeding from the small dissection of descending aorta. Patient with severe comorbidities (nephrotic syndrome based on membranous glomerulonephritis, diabetes mellitus, lung emphysema, hepatopathy, polyneuropathy and others).

The highest incidence in the world of rectal cancer is in Czech Republic

Vavra P, Andel P, Rydlova M, Pelikan A, Vavrova M, Martinek L, Gunkova P, Gunka I 185
 In the study we focused on patients with rectal cancer who were operated within the three-year period (2000–2002) at the Department of Surgery at University Hospital of Ostrava. During this time there were 188 patients with rectal cancer treated. In the trial we proved that in the direction from aboral margin of tumour the possibility of submucosal spread decreases in accordance with the literature.