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# АКТУАЛЬНІ ПИТАННЯ ТЕОРЕТИЧНОЇ ТА ПРАКТИЧНОЇ МЕДИЦИНИ

## Topical Issues of Clinical and Theoretical Medicine

**Збірник тез доповідей**  
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## ADDITIONAL THERAPY WITH DAPAGLIFLOZIN IN PATIENTS WITH TYPE 2 DIABETES WHO HAVE INADEQUATE GLYCEMIC CONTROL

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Patients with type 2 diabetes often require intensification of treatment to maintain glycemic control. Dapagliflozin is a novel glucose-lowering medication that reduces hyperglycemia by increasing urinary glucose excretion independent of insulin.

**Study objectives:** to assess the efficacy of dapagliflozin in patients with poorly controlled type 2 diabetes receiving metformin and sulfonylurea.

**Methods:** 42 patients with type 2 diabetes, obesity and inadequate glycemic control defined as HbA<sub>1c</sub>  $\geq 7.0\%$  and  $\leq 9.0\%$  took part in this study. Before randomization they were on stable dose of metformin (2g/day) and gliclazide (30-60 mg/day) or glimepiride (2-4 mg/day) for 12 weeks. 20 patients of the 1<sup>st</sup> group continued treatment by metformin combined with sulfonylurea. 22 patients of the 2<sup>nd</sup> group had used dapagliflozin at 10 mg/day in addition to metformin and glimepiride/gliclazide (triple therapy). All patients received dietary and lifestyle advice. 20 healthy persons were in control group.

The levels of glycosylated haemoglobin (HbA<sub>1c</sub>), fasting plasma glucose (FPG), postprandial glucose (PG), triglycerides, low density lipoproteins cholesterol (LDL-C) were explored. Statistical processing of results was carried out using licensed Microsoft Office 2000.

**Results:** Patients of the both groups were representative of the duration of diabetes, body mass index, mean baseline HbA<sub>1c</sub>.

In 3 months of treatment reduction in body weight on (1.8 $\pm$ 0.21) kg/m<sup>2</sup> kg was observed in the 2<sup>nd</sup> group compared with (0.7 $\pm$ 0.07) kg in the 1<sup>st</sup> group ( $p < 0.05$ ).

The levels of triglycerides, LDL-C were (2,0 $\pm$ 0,79), (3,8  $\pm$  0,54) mmol/l respectively in patients from the 1<sup>st</sup> group, (1,3 $\pm$ 0,90), (3,2 $\pm$ 0,74) mmol/l in patients from the 2<sup>nd</sup> group ( $p > 0.05$ ).

Triple antihyperglycemic therapy with dapagliflozin lead to reductions in levels of HbA<sub>1c</sub> from (8,1 $\pm$ 0,12) to (7,1 $\pm$ 0,11) % ( $p < 0.05$ ). 57% of patients from the 2<sup>nd</sup> group achieved an HbA<sub>1c</sub>  $< 7\%$ , FPG  $< 6$  mmol/l, PG  $< 8$  mmol/l compared with 36% of patients from the 1<sup>st</sup> group ( $p < 0.05$ ). Treatment with dapagliflozin appeared well tolerated, there was 1 case of non-severe hypoglycaemia.

**Conclusion:** Adding a dapagliflozin to background metformin/sulfonylurea therapy in poorly controlled patients had led to greater improvements in glycemic control, significant reduction in body weight than dual therapy with metformin/sulfonylurea.

## DYNAMICS OF COGNITIVE FUNCTION IN OLDER PATIENTS AFTER INTRAVENOUS ANESTHESIA

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It is projected that patients older than 60 years will become the largest segment of the surgical population by 2020. Postoperative cognitive dysfunction (POCD) is increasingly recognized as an appearance after surgery. Older age is a strong preoperative risk factor of POCD.

**Aim.** To define the effect of various drugs for total intravenous anesthesia (TIVA) on cognitive function (CF) in older patients.

**Materials and methods.** Were examined 25 patients aged from 60 to 74 years, mean age 66,9  $\pm$  4,3 years. Among them were 15 men and 8 women, who met the standard of the ASA I-II. All patients had routine abdominal operations. Cognitive function was assessed on day before operation, day 3 and 7 after operation using the Montreal Cognitive Assessment (MoCA). A score of  $\leq 24$  was indicative of cognitive dysfunction. Patients were divided into 3 groups depending of the method of anesthesia. In 1st group (7 patients) anesthesia was introduced by TIA based on ketamine, in 2nd (8 patients) - based on propofol, in 3rd (8 patients) – on thiopental sodium. Analgesia was provided in

all groups by fentanyl. There was't significant difference in character and time for surgery, the age, the mean arterial pressure, heart rate and oxygen saturation into groups.

MoCA test results before surgery were insignificantly different in all groups. CF became worse significantly on 3rd day after surgery in 5 patients of group 1 (70%), 4 patients in 3rd (50%) and 1 patient in group 2 (12.5%). In the 1st group mainly suffered indicators of concentration and stability of attention and short-term and long-term memory. Whereas, in the other groups were registered violation of long-term memory. In 7 days after surgery state of CF in 83% of patients improved, but 3 patients in 1st and 1 patient of 3rd group received  $\leq 24$  in MoCA test.

**Conclusions.** In 43% of elderly patients after routine surgical treatment in under total intravenous anesthesia there was a decrease CF. The use of TIVA based on propofol has less impact in the development of POCD.

## IDENTIFICATION OF ANTI-MOESIN ANTIBODIES IN THE SERUMS OF PATIENTS WITH ANTIPHOSPHOLIPID SYNDROME

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**Introduction:** The antiphospholipid syndrome (APS) is an acquired autoimmune disease characterized by recurrent vascular thrombosis and obstetric complications. However, the precise mechanisms by which the autoantibodies mediate disease remain to be elucidated. Moesin is an intracellular protein that links the cell membrane and cytoskeleton, mediating the formation of microtubules and cell adhesion sites as well as ruffling of the cell membrane, which is crucial for platelet activation.

**Materials and methods:** We screened the serums from patients with APS for the presence of anti-moesin antibodies (anti-moesin Abs) recognizing antigens derived from prokaryotic expression system, and investigated the effect of murine monoclonal anti-moesin Abs (anti-moesin mAbs) on platelet activation and aggregation by flow cytometry and platelet aggregation assay in vitro to study their potential pathogenic role in APS.

**Results:** The presence of anti-amino (N)-terminal portion of moesin antibodies (anti-moesin-N Abs) was observed in 63% (63/100) patients with APS, which was significantly higher than anti-cardiolipin antibodies (aCL, 39%) and anti- $\beta 2$  glycoprotein I antibodies (anti- $\beta 2$ GPI, 53%). Moreover, the elevated anti-moesin-N Abs levels significantly correlated with plasma levels of anti- $\beta 2$ GPI ( $rs=0.574$ ,  $P<0.002$ ) rather than aCL ( $P=0.303$ ). The murine anti-moesin mAbs promote platelet activation and aggregation in vitro, which could be effectively neutralized by moesin-N.

**Summary:** In combination of the detection of aCL and anti- $\beta 2$ GPI, screening for the presence of anti-moesin-N Abs might has its value in facilitating the laboratory diagnosis of APS. The pathogenic role of anti-moesin-N Abs in the serums of APS patients needs to be further studied.

## CHOOSING THE NUTRITIONAL INTERVENTION TO OVERWEIGHT AND OBESE PATIENTS

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**Background and Aims.** Weight problems occur in 1.5 billion people and these are a risk factor for type 2 diabetes, cardiovascular, pulmonary and periodontal diseases, cancer and osteoporosis. Our study aimed to evaluate the caloric intake, vitamins and minerals from food before a nutritional intervention to overweight and obese patients.