

## COMPARATIVE STATE OF LOCAL AND SYSTEMIC INDICATORS OF CELLULAR, HUMORAL IMMUNITY AND CYTOKINE PROFILE IN PATIENTS WITH PEPTIC ULCER BLEEDING

**J.N. Hajiyeu, V.A. Allahverdiyev, E.M. Klimov\*, N.J. Hajiyeu**

*Azerbaijan Medical University, Baku, Azerbaijan  
and Institute of General and Emergency Surgery NAMSU, Kharkov\**

**INTRODUCTION.** The generally accepted efficiency of modern anti-ulcer agents also did not solve the problem of gastric and duodenal ulcer, the number of patients with peptic ulcer bleeding is increased from year to year. The immune status of the organism also plays an important role in pathogenesis of gastroduodenal ulcer.

However, in patients with peptic ulcer bleeding, both local and systemic immunity, including cytokine profile was not fully studied.

**THE PURPOSE OF THE STUDY.** The study of some local and systemic indicators of cellular and humoral immunity and cytokine profiles in patients with peptic ulcer bleeding.

**MATERIALS AND METHODS.** On admission to the hospital in 154 patients with peptic ulcer bleeding (gastric ulcer — 37, duodenal ulcer — 111 and gastroduodenal ulcer — 6) was determined the content of cellular (CD3+, CD4+, CD8+ — lymphocytes) and humoral (CD19+ — lymphocytes, Ig A, M, G, circulating immune complexes (CIC) indicators of immunity and cytokine profile (TNF $\alpha$ , IFN $\gamma$ , IL-1, 2, 6, 8 and anti-inflammatory IL-4, 10 of cytokines) in blood serum. In 107 patients local immunity were evaluated by studying lysozyme levels and IL-6 in gastric juice, and Ig A, M, G — in duodenal juice.

**RESULTS AND DISCUSSION.** In study of cellular immunity in patients with peptic ulcer bleeding were revealed a statistically significant decrease — in CD3+ — lymphocytes up to 32,9%, CD4+ — 32,5%, CD8+ — 13,3%, CD4+/CD8+ — 23.2% and phagocytic index (PI) — 18.9% than in healthy individuals. Also it was established disturbances in humoral immunity: a statistically significant increase of CD19+ — lymphocytes by 58.8% and CIC — 2.3 times, decrease of concentration of Ig A, M, and G respectively 16.5%, 15.8% and 10.7% ( $p < 0.05$ ).

On background of this, there was a statistically significant increase in concentration of serum TNF $\alpha$  — 5.7 times, IFN $\gamma$  — 5.4 times, IL-1 — 9.9 times, IL-2 — 8.7 times, IL-4 — 6.2 times, IL-6 — 12.8 times, IL-8 — 2.5 times, and decrease in IL-10 — 45.2% compared with the normal. The content of IL-6 in urine was 8.2 times ( $p < 0.001$ ) more than in healthy individuals.

In stomach mucose the content of IL-6 by 37.5% ( $p < 0.001$ ) and lysozyme by 38.3% ( $p < 0.001$ ) was lower in comparison with the control group. In duodenal content was revealed decrease of Ig A, M and G respectively by 72.0% ( $p < 0.001$ ), 55.1% ( $p < 0.001$ ) and 37.6% ( $p < 0.001$ ) relative to normal indicators.

**CONCLUSION.** Thus, studies have shown that in patients with peptic ulcer bleeding immunosuppression is observed in cell immunity with increasing levels of CD19+ cells and disbalance of immunoglobulins and cytokine status at the local and systemic level.

## FORTSCHRITTE IN DER ADJUVANTEN THERAPIE DES DIABETES MELLITUS TYP 2 MIT MINERALIEN

**S. Heymann<sup>1</sup>, J. Schulz<sup>1</sup>, O.G. Nikolaev<sup>2</sup>, S.V. Fomchenkov<sup>3</sup>**

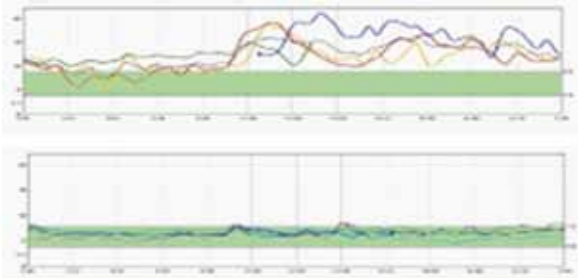
<sup>1</sup> ICP HealthCare GmbH, Berlin,

<sup>2</sup> Woronescher Vereinigung der Endokrinologen und Diabetologen,

<sup>3</sup> OOO Nitrozdrav, Moskau

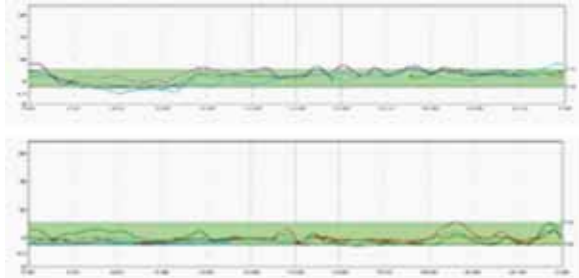
Bei Diabetikern des Typs II wird der insulinabhängige Stoffwechselweg zur Energiegewinnung aus Glukose entlastet, wenn ein Teil der aufgenommenen oder der aus Stärke bzw. Disacchariden freigesetzten Glukose durch käfigförmig strukturierte Aluminosilikate (Zeolithe) isomerisiert wird [S. Saravana-

murugan et al., J. Am. Chem. Soc. (2013), 135 (4), S. 5246–5249]. Die dreiwöchige Einnahme von Zeolithen im Bestand spezieller diätetischer Lebensmittel senkt die Blutzuckerkonzentration erheblich, wie kontinuierliche Tagesverlaufsmessungen der Blutzuckerkonzentration beispielhaft zeigen (Abb.1).



**Abb. 1.** Tagesverlaufskurven des Blutzuckerkonzentration bei einer Patientin mit mittelgradigem Diabetes Typ II vor (oben) und nach (unten) dreiwöchiger Einnahme von Nanovit® Metabolic. Die verabreichten Kapseln entsprechen einem Zeolithgehalt von 270 mg pro Tag. Medikation und Ernährungsgewohnheiten der Person haben sich über die Mess- und Einnahmezeiträume nicht verändert.

Von besonderer Bedeutung ist eine zweite Beobachtung: Die oft lebensgefährliche Unterzuckerung in den späten Nacht-/frühen Morgenstunden wird ebenfalls normalisiert (Abb.2).



**Abb. 2.** Tagesverlaufskurven des Blutzuckerkonzentration bei einem an sich gut eingestellten DM II Patienten mit Neigung zu nächtlicher Unterzuckerung vor (oben, Pfeile) und nach (unten) dreiwöchiger Einnahme von Nanovit® Metabolic.

## COMPLEX RADIO-DIAGNOSTIC FEATURES OF COMPLICATION PREDICTORS AFTER CORONARY ARTERIES STENTING

**Khachatryan G.H., Karapetyan A.G.,  
Kamalyan N.S., Khondkaryan K.V.**

Science Center of Radiation Medicine and Burns, Ministry of Health of the Republic of Armenia, Yerevan, Republic of Armenia

The work was aimed to study complex radio-diagnostic parameters as predictors of complications after percutaneous coronary intervention (PCI).

The survey involved 131 male patients aged 20–75 years with multiple coronary arteries lesions and exposed to PCI. Total number of stents was 333, including 164 (49%) with drug emitting coverings (DEC), 169 (51%) — without DEC. As to concomitant diseases, there were 28% patients with diabetes mellitus.

Multi-factorial analysis of 57 quantitative parameters of radiation diagnostics was performed using 3 methods: coronarography, echocardiography, SPECT-tomography (perfusion).

Reasons of repeated referrals for relapses of angina pectoris, arrhythmia, myocardial infarction were analyzed.

*The following results were obtained and considered complication predictors:*

1. Left coronary artery lesion with the ongoing worsening of end diastolic volume.
2. Ongoing worsening of ejection fraction (EF): of both general and local contractility.
3. Aortic disruption with right heart failure.
4. Combination of lesions of the left coronary arterial trunk and the right ventricle.
5. At the second visit to physician, 26 patients had myocardial infarction. At the first referral, 3 significant parameters were recorded; at the second referral the combined ongoing worsening of EF with lesions of left coronary artery was revealed to be accompanied by impairment of end-diastolic volume (EDV), end-systolic volume (ESV), aggravation of perfusion, and added