

questionnaire an “Electronic base of UGHR patients for risk factors disclosure in the prognostication of bleeding outcomes” was made. On each sign of the formalized case record its importance concerning the prognostication purpose – bleeding relapse risk, was defined (2.) The significance or reliability of a sign (factor) was defined by means of statistical nonparametric criterion  $\chi^2$  (chi-square). The most significant factors on bleeding relapse risk became 84 ones. Among them: the age of 45 years and older, primary hemorrhage episode in a hospital, admission in terms till 5 days, repeated vomiting with blood, black liquid defecations more than 4 times, gastrointestinal hemorrhage in anamnesis, post-surgical hemorrhage, nonsteroidal antiinflammatory drugs intake, organ failure, oedemata, icterus, hemoglobin at the admission less than 70 g/l, ulcer defect size of 8 mm and more, ulcer defect depth more than 5 mm with possible penetration, subcompensated stenosis of duodenal cap with ulcer defect localization in it – the source of bleeding, any protracted bleeding when carrying out an electrogastroduodenoscopy, the transfused plasma-substituting solutions volume more than 7,3 liters, ignoring eradication therapy, etc.

On the basis of the risk factors importance a computer program was developed: "The program of risk factors search for bleeding dynamics prognostication of patients suffering from ulcer gastroduodenal hemorrhage". The program can be applied in medical establishments of regional and city types, equipped by a minimum of the diagnostic instrumentation and computer technics. Using the patient's checkup results and the disease anamnesis, the results of laboratory and instrumental researches, the obtained data are entered into the program, and after computer processing the doctor receives authentic enough expert opinions on the bleeding relapse risk. Predicting the bleeding relapse threat, the program helps to solve the problem of the necessity to carry out preventive haemostatic actions. It is necessary to recognize, that the conclusions based on the prognostic results, have recommendatory character because the prognostication effectiveness is high enough though, but does not reach a hundred per cent. The responsibility for the treatment outcome is assigned to surgeons; that is why they finally

define the choice of medical tactics at UGHR patients.

#### Conclusions

1. The knowledge of bleeding relapse risk factors allows assuming its probability with sufficient reliability.

2. Program prognostication helps the attending physician to solve the problem of rationality of carrying out emergency preventive haemostatic actions, and aims at the necessity of more skilled experts' consultations.

#### Literature

1. Shapkin J.G., Potakhin S.N., Belikov A.V., etc. “Diagnostics of peptic ulcer pre-recurrent syndrome”// “Surgeon Reporter”- 2004, №3, pp. 43-46.

2. Kumar Amrish “The choice of medical tactics at patients younger than 60 suffering from chronic bleeding gastric ulcer” // Autoabstract Thesis ... Master of Medical Sciences. –Saint-Petersburg, 2004, p.21.

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#### ERYTHROCYTES' MORPHOMETRIC ANALYSIS AT THE ELDERLY SUFFERING FROM PANCREATIC DIABETES

Lipunova E.A., Skorkina M.Y., Tugin V.N.  
Belgorod State University  
Belgorod, Russia

At diabetes (D) it is the erythrocytic component that suffers the reaction of activity increase of free radical oxidation first and is the first to exhaust its compensatory possibilities (E.V. Roytman and co-authors, 2001). However, red blood cells' changes in metabolic disturbance complex associated with D are studied not sufficiently, that is becoming the reason of not always adequate metabolic care (Bondar T.P. and co-authors., 2002). The aim of the research was to study the morphometric characteristics of erythrocytes of the elderly (men and women) suffering from D.

28 persons (15 men of  $50,5 \pm 3,6$  years old and 13 women  $56,9 \pm 2,5$  years old) having suffered from insulin-dependent D of 2 type for  $8,6 \pm 1,9$  and  $12,2 \pm 2,9$  years accordingly, were examined; their hematologic indexes being studied and the erythromorphometry being carried out.

The hematologic indexes of clinically healthy men and women didn't exceed the bounds of the conditional physiological norm. The comparative analysis revealed a higher value of erythrocytes in a blood volume unit by 14, 7%, hemoglobin – by 14, 8%, hematocrit index – by 14, 6% ( $p < 0,05$ ) at the men. The mean cell value and hemoglobin concentration didn't have authentic differences, but the tendency to higher indexes at the men was marked. Comparing erythromorphometric characteristics of healthy patients we noted that the average diameter (by 6, 3%) and average area of a cell surface (by 5, 8%) were more and the thickness index (by 11, 1%) less at the men; the mean cell volume of red blood cells didn't have authentic differences.

The diabetic patients' red blood indexes were in the bounds of the norm as well, but compared to the control group a more lower value of total and mean cell hemoglobin by 11, 9 and 7, 6, and 17, 8 and 8, 0 % at the men and the women accordingly. The fundamental characteristic of an erythrocyte is volume: at the diabetic patients it was lower -  $94,2 \pm 0,4$  and  $84,3 \pm 2,34 \text{ мкм}^3$ , and  $94,3 \pm 0,9$  and  $88,9 \pm 2,3 \text{ мкм}^3$  ( $p < 0,01$ ) at the healthy and sick men and women accordingly. In the diabetic patients' groups the diameter-thickness ratio was authentically higher and the specific surface area was lower, the differences being graded more vividly at the women than at the men.

#### Conclusions:

- 1) blood of clinically healthy men contains more erythrocytes and hemoglobin in a blood unit volume than that of women, and it has a more higher hematocrit index;
- 2) sex specificity of the main hematologic indexes retains at the diabetic patients;
- 3) specific and average surface areas and the average volume of an erythrocyte is lower, but diameter-thickness ratio is higher at the patients;
- 4) geometric profile changes of red blood cells decreases their contribution in normal

functioning of homeostatic systems of a body at diabetes;

5) hematologic profile and morphometric characteristics' changes of erythrocytes at diabetic patients are valued as adaptive processes aimed at blood flow properties perfecting and reducing tissue hypoxia in erythron system.

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#### ESTIMATION OF X-RAY INFLUENCE ON SPINAL GANGLIA NEURONS

Melchikov A.S.

*Siberian State Medical University*

*Tomsk, Russia*

Practically all the population of all countries in the world is exposed to X-ray effect when being diagnosed or taking remedial measures during the life. In this respect there is a necessity to study the changes, including biochemical parameters, taking place in sensory neurons of spinal ganglia when X-rayed.

The research was carried out on 81 mature guinea-pig males, from which 51 were used in the experiment, and 30 served as the control. The experimental animals were exposed to single general irradiation (dosage – 5 Gy, filter – 0,5 mm SI, voltage – 180 kV, amperage – 10 mA, focal distance – 40 cm). Excluding the animals from the experiment and sampling the materials were done immediately, in 6 hours, on the 1<sup>st</sup>, 5<sup>th</sup>, 10<sup>th</sup>, 25<sup>th</sup> and 60<sup>th</sup> days after finishing the exposure. Spinal ganglia were taken from different parts of spinal cord (cervical, thoracic, and lumbar). The LDH activity level in the cytoplasm of sensory neurons of spinal ganglia was subjected to the histoenzymologic research. The findings were statistically treated.

Immediately after finishing X-raying the increase of the LDH activity level in the spinal ganglia neurons of all parts of the spinal cord was marked; it being: 110,5% in the cervical part, 123,9% in the thoracic part, 109,4% in the lumbar part of the spinal cord, from the basal value ( $P < 0,05$ ). In the following periods the LDH activity keeps retaining increased being, in