

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
ВИЩИЙ ДЕРЖАВНИЙ НАВЧАЛЬНИЙ ЗАКЛАД УКРАЇНИ  
«БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



## **МАТЕРІАЛИ**

**101 – ї**

**підсумкової наукової конференції**

**професорсько-викладацького персоналу**

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Загальна редакція: професор Бойчук Т.М., професор Іващук О.І.,  
доцент Безрук В.В.

Наукові рецензенти:

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Hypothalamus cells develop rapidly. So, the congestion in the anterior part is the paraventricular nucleus. From the ventral and ventrolateral side there are cellular strands directed toward the laying of the supraoptic core. Cellular elements are densely and unevenly distributed. In the posterior part there is a congestion of irregular rounded form - a bookmark of mamillary bodies.

The complexity of the shape of the lateral ventricle at this stage of development is due to the formation of a collateral groove that separates the hippocampal gyrus from the lower temporal lobes and the presence of a lateral that separates the temporal region.

The intensity of development of the cavities and structures of the brain in the early period of ontogenesis is very high. On the 8-9th week, the ventricles of the anterior cerebral vesicle (lateral and third) and the nuclei in their walls begin to form.

**Riabyi S.I.**

**ROLE OF PROTEOLYTIC AND FIBRINOLYTIC ACTIVITIES OF INTESTINAL WALL  
TISSUES IN SUTURED AREA HEALING UNDER THE CONDITIONS OF  
ANASTOMOTIC LEAKAGE DEVELOPMENT**

*Department of Patient Care and Higher Nursing Education  
Higher State Educational Establishment of Ukraine  
"Bukovinian State Medical University"*

Despite the reduction of share of full-size operations in abdominal surgery, anastomotic leakage (AL) continues to be quite serious complications after operations on the hollow digestive organs. It has been proved that tissues ischemia, kind of suture material and technical approach have a significant impact on the intestinal anastomosis healing. Local changes of some biochemical processes in the intestinal tissues directly into the sutured area, their influence on regeneration and leakage occurrence are insufficient studied.

Purpose of the research: to study the influence of specific changes of proteolytic and fibrinolytic activities of intestinal tissues directly into the region of sutures on regenerative properties of anastomosis under experimental conditions of their leakage development. The investigation has been performed on 72 albino nonlinear rats undergoing AL model. In 12, 24, 48, 72 hours and 5 days following a surgical interference euthanasia of the animals was performed under anesthesia and the samples of the intestinal tissue in the region of sutures were taken for specific tests. The levels of proteolytic activity by the lysis of: azoalbumin (AA), azocollagen (ACg), azocasein (ACs) and the indices of fibrinolytic activity: total (TFA), nonenzymatic (NFA), enzymatic (EFA) have been researched. The reparative processes in the sutured zone of intestinal wall were evaluated by pathomorphology examination stained by hematoxylin-eosin, Van Gison, and Slinchenko methods.

According to the obtained data a reliable steady activation of tissues proteolysis has been revealed in the animals of the experimental group in comparison with the control one. So, in 12-24h. following the operation a reliably higher activity of lysis of AA, ACs and ACg was detected in the animals of the experimental group ( $p < 0,001$ ). It testifies to an increase of proteolytic modification of the low- and high-molecular proteins. At this period of observation in the animals with AL there occurs a proved rise of TFA into serous layer of intestinal wall, both at the expense of NFA and EFA ( $p < 0,001$ ). Pathomorphology examination of the anastomotic area in the experimental group of has revealed more intense neutrophilic infiltration in the submucosal layer of the intestinal wall extending to muscle and serous membranes, also expressed venous plethora and hemorrhages into serous membrane. On the contrary, the animals of control group the fibrinous mesh into channel of the thread and between the serous membranes was not observed. During a later period (48-72 h.) we observed a tendency to rise of the indices of tissue proteolysis in submucosal layer of intestinal wall, especially indices of ACg lysis, which were one and a half time higher than in control group. An elevation of the tissue fibrinolytic activity was detected in the animals with AL, largely at the expense of EFA which exceeded twice the control data. The histological signs of regeneration disturbances in this period of observation were significant diastasis between the serous membranes of intestine touching only in the area of the connected



edges of the mucous membrane, also the diffuse inflammatory reaction with expressed neutrophilic and plasmocytic infiltration, edema, plethora and hemorrhages which spread to all layers of intestinal wall. The constant signs of tissues necrosis with the advantage of disintegrated neutrophilic granulocytes and lymphoid cells over macrophages and single active fibroblasts were revealed around canal of the thread.

Thus, prolonged intense degradation of collagen molecules in submucosal layer of intestinal wall, which provides the basic strength of anastomoses may be one of the mechanisms of disturbances of regeneration of sutured tissues under conditions of insufficient blood circulation. Along with it, excessive activation of tissue fibrinolysis due to fibrin matrix lysis can lead to a violation of fixation of fibroblasts in the tissues of the anastomotic area and its insufficient healing.

**Rusnak V.F.**

### **FEATURES OF PHARYNGEAL EMBRYOTOPOGRAPHY IN 8 WEEK PREFETUSES**

*M.G. Turkevych Department of Human Anatomy  
Higher state educational establishment of Ukraine  
«Bukovinian State Medical University»*

The position of an organ relative to other organs (syntopy) and the development of organs in different age periods attract special attention from modern embryologists, anatomists and clinicians. Scientists always face the problem of insufficient scientific research to study the development of organs in health and disease. An urgent task is the in-depth study of the topography of the pharynx for professionals of many branches of medicine. Syntopy correlation and mechanisms of ontogenetic processes are methods of understanding the foundations of this organ, setting, topography, structure, and to display defects in physical development. Undoubtedly, the display of various anomalies that occur in clinical practice can be explained only by a clear understanding of the process of embryonic origin and interaction of certain organs and structures. This requires a thorough study of normal and abnormal development of the fetus for further development of algorithms and antenatal health protection.

The study was conducted on cadavers of 26 fetuses using histology, macro-and microscopic techniques, plastic and graphic reconstruction and morphometry.

At the end of the prefetus period, the pharynx has three clearly defined parts which are characterized in definite states. The boundaries between the parts of the organ are: the level of the soft palate - caudal border of the nasal pharynx, the level of the entrance to the larynx (the top edge of the epiglottis) - caudal border of the mouth, the level of the lower edge of the cartilage of the larynx cricoid cartilage - caudal border of the laryngeal and pharyngeal-esophageal transition. At macroscopic examination of the fetus (82.0 - 93.0 mm parietal-coccygeal length PCL) the longitudinal size of the pharynx is from 5.05 to 5, 30 mm. The sizes of the craniocaudal pieces are: nose - from 0.59 to 0, 60 mm mouth - from 0.83 to 0.84 mm, laryngeal - from 3.44 to 3.60 mm. At the end of the fifth month of fetal development in fetuses, 175 - 185 mm PCL craniocaudal throat size is 5.84 - 5.97 mm. This includes the bow - from 0.70 to 0.72 mm, mouth - from 1.10 to 1, 14 mm, laryngeal - from 4.02 to 4.11 mm. The main dimensions of the structures of the fetuses sixth - seventh months (186.0 - 270.0 mm PCL) are: craniocaudal size is from 8.07 to 8.20 mm, the length of the nasal pharynx - from 1.10 to 1.14 mm, oral - from 1.40 to 1.45 mm, laryngeal - from 5.72 to 5.80 mm. The transverse size of the pharynx in the cranial department reaches 8.90 - 9.05 mm in the caudal parts of 3.14 - 3.30 mm. For eight to ten months of fetal development (fetuses 271.0 - 378.0 mm PCL) longitudinal size of the pharynx increases from 11.20 to 11.62 mm. In the late fetal period (fetuses 378.0 mm PCL), the craniocaudal throat size is 22.93 to 23.45 mm - including the length of the bow ( 3.92 to 4.06 mm), mouth - (6.09 to 6.26 mm), laryngeal - (12.92 to 13.13 mm). The transverse size of the pharynx in the cranial department is from 10.71 to 10.92 mm, and in the caudal section and from 4.63 to 4.83 mm.

During the 12 - 16th week of fetal development we observed the definitive form of the pharynx. Simultaneously with the overall formation of the pharynx we observed the craniocaudal gradient of development. Laying and pharyngeal tonsils occurs almost simultaneously at the end of