

CHANGES IN THE INTRAORGAN BLOOD VESSELS OF THE STOMACH IN MALIGNANT TUMORS AND PEPTIC ULCER

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Abstract: The article studies changes in the intraorgan blood vessels of the stomach in malignant tumors and peptic ulcer disease. A dense network of capillaries with clear contours was revealed in the serous membrane. In peptic ulcer disease, the capillaries and small vessels were often tortuous, dilated and filled with blood, and medium-sized vessels were somewhat narrowed. In tumors, finger-shaped protrusions were found on the veins, and spherical expansions were found on the venules at the border with the submucosal layer.

Keywords: blood vessels, wall, tumor, stomach, peptic ulcer disease, capillaries, vascular network, vessel contours, veins.

ИЗМЕНЕНИЕ ВНУТРИОРГАННЫХ КРОВЕНОСНЫХ СОСУДОВ ЖЕЛУДКА ПРИ ЗЛОКАЧЕСТВЕННЫХ ОПУХОЛЯХ И ЯЗВЕННОЙ БОЛЕЗНИ

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Резюме: В статье изучены изменение внутриорганных кровеносных сосудов желудка при злокачественных опухолях и язвенной болезни. В серозной оболочке выявлялась густая сеть капилляров четкими контурами. При язвенной болезни капилляры и мелкие сосуды часто были извиты, расширены и наполнены кровью, а сосуды среднего калибра - несколько сужены. При

опухолях на венах встречались пальцевидные выпячивания, а у венул на границе с подслизистым слоем - шаровидные расширения.

Ключевые слова: кровеносные сосуды, стена, опухоль, желудка, язвенная болезнь, капилляры, сосудистая сеть, контуры сосудов, вены.

Introduction. The problem of studying peptic ulcer disease remains relevant today both from a theoretical and practical standpoint. Despite the large number of domestic and foreign works on this topic, many key issues of pathogenesis, clinical presentation, and treatment remain controversial and not fully clarified [1,2,3].

The last decades have been characterized by significant advances in the study of various aspects of the pathogenesis, clinical course, diagnosis, and treatment of peptic ulcer disease. In particular, the results of comprehensive studies have been reflected in the analysis of the pathogenetic significance of vascular changes [4,5], as well as the clinical manifestations of peptic ulcer disease depending on the localization of the process and its combination with diseases of the cardiovascular system. Until recently, the study of the sequence of disease phases, the depth of gastric and duodenal wall lesions, and changes in hemodynamics and microcirculatory status in peptic ulcer disease has generally been carried out in isolation; the dynamics of the diagnosed disorders have not been studied, and consequently, no pathways for their adequate pathophysiologically grounded correction have been proposed [6,7].

Aim of the study. The objective of the present work is to study the intraorgan blood vessels of the stomach in malignant tumors and peptic ulcer disease.

Materials and methods. The material for the study consisted of individuals aged 28 to 61 years. In 25 resected stomachs obtained from patients with peptic ulcer disease (11 cases) and malignant tumors (14 cases) in individuals aged 28 to 61 years, the vessels were filled with colored masses; the stomach was clarified in aqueous solutions of glycerol. Its wall was divided into layers, in which the vessels were examined under a binocular microscope MBS-2.

Results. In tumors, the capillary networks in some areas were denser, while in others they were sparser. Some small vessels showed sharp tortuosity and uneven, as if eroded, contours; others ran in a straight line. Unchanged vessels were also encountered. Arteries were less tortuous than veins. In tumors, finger-like protrusions were observed on veins, and spherical dilatations were noted on venules at the border with the submucosal layer. In the muscular coat, the capillary networks were dense. Small and medium-sized vessels — mainly veins — had a tortuous course. Along the same vessel, alternations of constrictions and dilatations were frequently noted. Overall, the changes in veins in the muscular coat were more pronounced than in arteries. In small veins, at sites of bends, significant dilatations with thickened walls were observed. Many vessels had an uneven caliber and indistinct, sometimes eroded contours, which was more commonly seen in cancer. In the deeper layers of the muscular coat, many veins were dilated. From the vascular network around the tumor, thin vessels with uneven caliber were directed toward the tumor; they then seemed to break off and were no longer visible further. The vessels of the submucosal plexus were, in some cases, sharply tortuous and dilated. Small bead-like veins of the submucosal layer formed rich networks (usually in tumors) or were sparse. Along with them, thin straight arterioles and venules were encountered. The vessels of the mucous membrane were markedly altered. At the border with the tumor, capillaries did not fill at all or were revealed in islands; they were tortuous, in places slightly dilated or, conversely, narrowed throughout their length or partially. The tumor zone was delimited by a dense network of vessels. At the periphery of the tumor, torn loops of vascular networks and seemingly broken arterioles and venules were revealed. Small and medium-sized vessels were tortuous in the form of glomeruli, spirals, and loops. Areas of mucosa poor in vessels were encountered. The contours of vessels of all calibers were often indistinct and eroded. Markedly dilated veins throughout their length or, conversely, in separate segments were frequently observed. It can be assumed that in some cases the vessels undergo pathological

changes totally, while in others — fragmentarily. Frequently observed were markedly narrowed or, conversely, dilated veins. The accompanying arteries were less altered.

Conclusion. No vascular changes specific to peptic ulcer disease or malignant tumors have been identified so far, with the exception of the presence of a dense vascular network around the tumor, rich networks of small submucosal veins with multiple spherical and spindle-shaped dilatations, uneven visualization of the finest networks in the serous coat, and frequent blood engorgement with the presence of numerous extravasates. It can be assumed that different etiological factors cause identical changes in the vessels.

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