

EFFECTS OF INDUSTRIAL TOXICANTS ON RAT'S RECTAL

A. S. Ilyasov

Assistant of the Bukhara State Medical Institute
Named after Abu Ali Ibn Sino, Bukhara, Uzbekistan

Azimova Z. S.

Assistant of the Bukhara State Medical Institute
Named after Abu Ali Ibn Sino, Bukhara, Uzbekistan

Abstract

At the present stage, the impact of xenobiotics on the structure of internal organs is increasing [1]. From this point of view, the study of the structure of the sphincter apparatus of the rectum is relevant, since the frequency of its pathology increases [2,3,4]. Many pathologies of the sphincter apparatus of the rectum are associated with structural features and differences in the rudiments of development [5]. It should be noted that the morphological changes that occur in the sphincters and adjacent parts of the anal canal under the influence of toxic substances that enter the body of humans and animals with drinking water have not been sufficiently covered, and insufficient measures are taken to reduce their impact on the structures of internal organs.

Keywords: rats, toxicants, microvessels, lymphocytes, potassium thiocyanate, rectum.

The aim of the study is to determine the diameter of the lumen of intraorganic vessels, and the patterns of formation of lymphoid formations in the walls of the anal canal in rats at various stages of postnatal ontogenesis and their changes under the influence of xenobiotics.

The anal canal of the rectum is divided into the presphincter section, the transition zone, the internal sphincter and the external sphincter, the intersphincter zone and the space between the sphincters. In the intersphincter zone and the space between the sphincters, a greater density of intraorgan vessels is revealed than in other parts of the canal. In the initial stages, diffuse lymphoid tissue is detected in the anal canal of rats.

With age, diffuse lymphoid tissue thickens in the form of lymphoid nodules. Differences in the structure of the epithelium, lymphoid formations and fibrous structures of the connective tissue were revealed in the intersphincteric zone. This is due to the fact that this zone is located on the border between the anal canal and the external enviro. In the experiment, under the epithelium of the presphincter section and the transitional zone, against the background of a decrease in the number of lymphocytes in lymphoid nodules, the density of diffuse lymphocytes and lymphocyte clusters increases. Potassium thiocyanate is more toxic than copper sulfate. During postnatal ontogenesis, changes in microvessels occur differently depending on the section of the rectum and the age of the. By the 6th month, the lumen of the vessels increases in the internal sphincter and intersphincter zone. In the experiment, the degree of reactive changes in the intraorganic vessels of the anal canal wall depends on the type of xenobiotic. By the 6th month, the lumen of the venules in the space between the

sphincters was expanded. At the 12th month of the experiment, the lumen in the venules of the sphincters remains enlarged. When exposed to potassium thiocyanate, changes in the structural components are more pronounced than when exposed to copper sulfate. During breastfeeding, with an increase in the muscle membrane of the sphincters in them, the diameter of the lumen of the microvessels becomes larger.

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