ГИСТОЛОГИЧЕСКАЯ СТРУКТУРА ВНЕПЕЧЕНОЧНЫХ ЖЕЛЧНЫХ ПРОТОКОВ У КРЫС

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Аннотация: В статье представлены научные данные об общем гистологическом строении наружных желчных протоков печени крыс — одних из экспериментальных животных, изученных методом окраски по Ван-Гизону, и эластических волокон — методом окраски по Вейгерту. **Ключевые слова:** Крыса, печень, желчные протоки, гистологическое строение, эластические волокна.

HISTOLOGICAL STRUCTURE OF EXTRAHEPATIC BILE DUCTS IN RATS

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Abstract

The article presents scientific data on the general histological structure of the external bile ducts of the liver of rats - one of the experimental animals studied by the Van Gieson staining method, and elastic fibers - by the Weigert staining method.

Keywords: Rat, liver, bile ducts, histological structure, elastic fibers.

Introduction

The structure of the extrahepatic bile ducts has been the subject of a significant number of scientific studies [1,2,3].

In the publications of recent years, there are very few scientific studies devoted to the comparative morphology of the biliary system and one or another of its sections [4,5]. Finding out the reason for the presence or absence of a gallbladder in certain representatives of mammals is of great importance, both

theoretically and practically. Comparative study features buildings extrahepatic gallbladder ducts at rats is a current scientific problem of theoretical and practical medicine. A number of authors [6,7] have studied the functional relationships in the digestive system, between the biliary system, stomach, duodenum and pancreas .

Many works are devoted to the study of various pathologies of extrahepatic bile ducts in the experiment [8]. Some authors [9,10] describe the comparative morphology of the common bile duct in humans and rats.

We did not find any works on the histological structure of extrahepatic bile ducts in rats in the available literature. On the issues of the structure of extrahepatic bile ducts in rats in the experiment, there is very little literary data and therefore it was not possible to describe them separately, however, we decided to fill this gap with our research.

Objective of the study : To investigate the histological structure of the extrahepatic bile ducts of the liver of healthy adult rats.

Material and methods of the study. The material for our study was the organ complexes of 18 sexually mature rats. The animals were killed by bloodletting (dissection of the abdominal aorta) under local anesthesia. The organs of the hepatobiliary system (liver, extrahepatic bile ducts) took straightaway after slaughter animal And recorded in a 12% solution of neutral formalin. To study the histological picture, the sections were stained hematoxylin And eosin. For studies collagen fibers the preparations were stained with picrofuchsin according to Van Gieson , and to identify elastic fibers fuchsillin according to Weigert .

Results of the study and discussion. The common bile (hepatic) duct of rats is formed by the fusion of the right and left hepatic ducts. The duct wall along its entire length has a mucous, submucosa, muscular-connective-tissue and serous membranes. The mucous membrane is covered from the inside with a single-layer cylindrical epithelium. The proper plate is represented by loose irregular connective tissue. The submucosa also consists of loose irregular connective tissue and contains numerous epithelial tubules of different diameters located parallel to the long axis of the duct (Fig. 1). The tubules are covered with prismatic epithelium. They are found along the entire length of the common bile (hepatic) duct of rats. Blood vessels and nerve ganglia are also found in the submucosa. The location of collagen fibers is mainly along the duct and circular. The density of the collagen fibers in different layers is different. Muscle the membrane is relatively thin, bundles of smooth muscle cells are mixed with

connective tissue fibers. Layers of smooth muscle tissue are found, both circular and longitudinal orientation. At the point of confluence left and right hepatic ducts the concentration of glands in the wall is high, it is as if permeated with these glands.

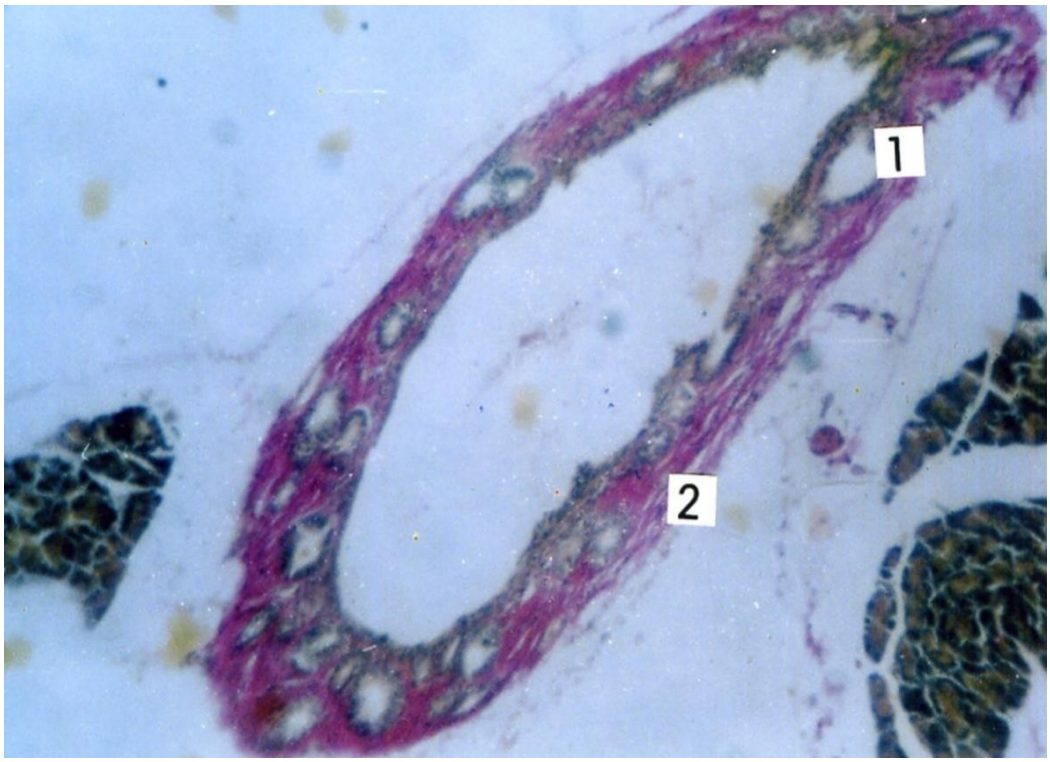


Fig.1. Transverse cut general gallbladder duct rats.

1.Epithelial tubules. 2.Muscular shell. Coloring By Van Gieson . Took away. 20x10.

All glands are covered with cylindrical epithelium and open into the lumen of the gland ducts with wide mouths, they are located even in the area of the confluence of these ducts (Fig. 2). It is clear from the figure that the left and right hepatic ducts contain glands in the form of epithelial depressions (similar to Luschka's ducts). It should be noted that the epithelium of the common bile duct of rats is uneven and high epithelial cells alternate with low ones (Fig. 3). The figure shows a cross section of the common bile duct and portal vein. As can be seen from pattern, epithelium covering the inner surface of the common bile duct, uneven, groups.

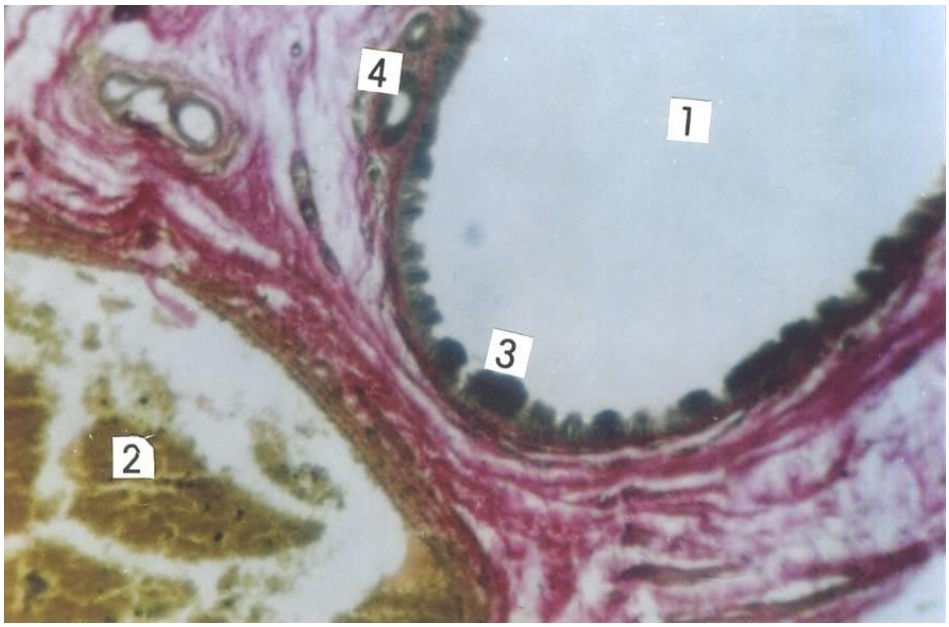
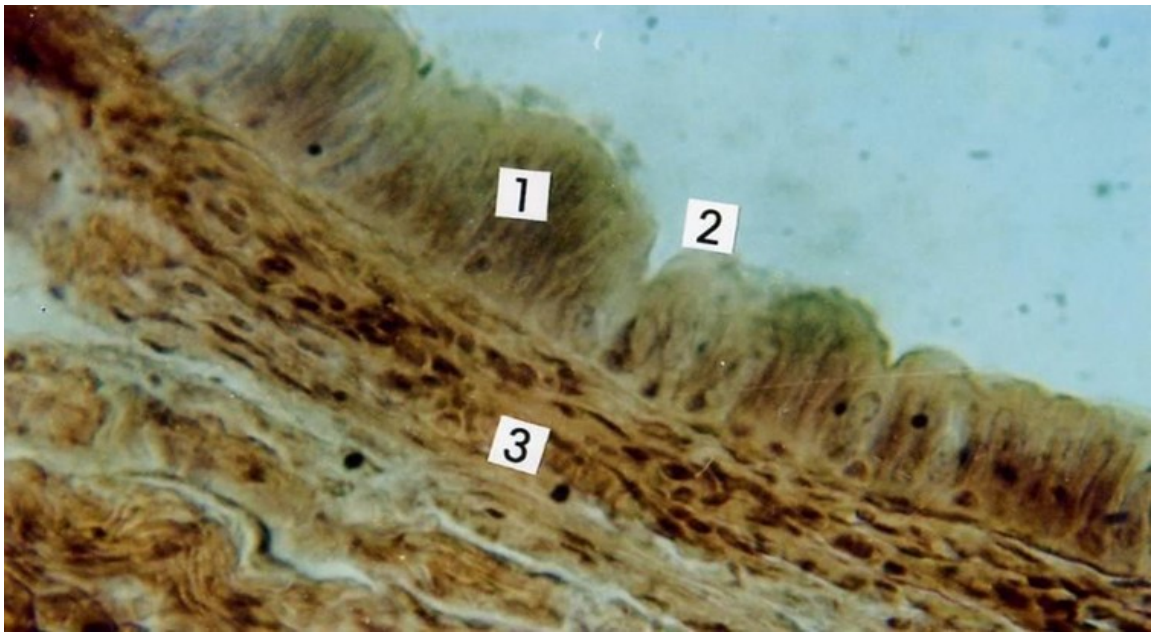


Fig.3. Transverse cut general gallbladder (liver) duct rats: 1) general hepatic duct 2) portal vein 3) epithelium 4) secretory parts of the glands. Van Gieson staining . Took away. 20x10.

tall cylindrical cells, delimited by longitudinal indentations that are clearly visible under high magnification (Fig. 4).



Rice. 4. Section of wall general gallbladder duct rats: 1) epithelium

1. epithelial recesses 3) basal membrane.

Hematoxylin and eosin staining.
Magnification 40x10.

Conclusion. The apical sections of the cylindrical cells seem to diverge, forming depressions. But these depressions do not reach the basement membrane, since the lower parts of the lateral surfaces of the cells are closely adjacent to each other. Secretory sections of the glands are visible in the proper plate of the mucous membrane. We assume that these longitudinal grooves serve as one of the elements that increase the volume of the bile (hepatic) duct of rats.

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