remodeling. Matrix metalloproteinase-2 (MMP-2) is a member of metalloendopeptidases family that cleaves the protein components of the extracellular matrix and thereby plays a central role in tissue remodeling. The role of MMP-2 in chronic carrageenan-induced intestinal inflammation is still poorly understood.

Aim. The aim of the investigation was to study the activity of MMP-2 in blood serum of rats with chronic carrageenan-induced gastroenterocolitis.

Materials and methods. The female Wistar rats were used for the experiment. Chronic carrageenan-induced gastroenterocolitis was reproduced by the free access of animals to 1% solution of carrageenan in drinking water. Laboratory animals were divided into 3 groups. Animals from the 1st group consumed carrageenan during 2 weeks, animals from the 2nd group consumed carrageenan during 4 weeks and group № 3 consisted of intact animals. The level of MMP-2 in blood serum of animals was measured usingQuantakine ELISA kit.

Results. It was found that the activity of MMP-2 was 3.1 times higher in animals from the 1st group and 1.6 times higher in rats from the 2nd group compared to control animals. MMP-2 catalyzes the breakdown of collagen type IV, a major component of basement membranes. Morphological investigation showed thinning of the basement membrane and disappearance of it in some areas of small intestine that might be explained by activation of MMP-2. The production of MMP-2 is known to be stimulated byTNF-α. The elevation of TNF-α in blood serum of rats with chronic carragenan-induced gastroenterocolitis was showed in our previous investigations. Thus TNF-α-induced MMP-2 production leads to accelerated degradation and remodeling of extracellular matrix.

Conclusions. The development of carrageenan-induced gastroenterocolitis is accompanied by activation of MMP-2 indicating the intensive extracellular matrix remodeling.

Tsiselskiy T., Ryhlik S.V.

STRUCTURAL MORPHOLOGICAL FEATURES OF MAMMALS TESTES DEPENDING ON AGE

Kharkiv national medical university, Kharkiv, Ukraine

Introduction. The testicular parenchyma of the dog consists of numerous seminiferous tubules lined with epithelial cells of Sertoli. These tubules are derived from coelomic primary kidney epithelium (pronephros) and participate in spermatogenesis. Between Sertoli cells there are primordial germ cell, spermatogonia, which are spermatozoa at the different developmental stages. Between the seminiferous tubules there are intermediate Leydig cells. These cells are accumulated around the blood vessels. These cells are relatively large and rounded with acidophilic cytoplasm vacuolated on the periphery of the cell. With age pigment starts to deposit in the cytoplasm.

Aim: to study the morphological structure of the testes of the dog during the sexually mature state and by elderly individuals.

Materials and methods: histological slides of the testes of the dogs during sexually mature state and elderly individuals stained with hematoxylin-eosin and picrite-Mallory staining method. Connective tissue septa of the tunica albicans flabellately diverge and divide testicular parenchyma in the vertical direction into slices. Each segment consists of long convoluted seminiferous tubules, connected near Highmore’s body with the straight seminiferous tubules that come into Highmore `s body and form there Halleri’s network.

Conclusion. The study found out that in elderly dog's slides were observed degenerative changes in the seminiferous tubules with a decreasing number and volume of the Leydig cells and the presence of pigment inside that cells, unlike histological slides of the testis of mature dogs.

Turmanidze K.

CONGENITAL HEART DEFECTION: DEFECTS IN HEART'S LOCATION

Kharkiv national medical university, Kharkiv, Ukraine
Department of human anatomy

Introduction. Congenital heart anomaly (CHD) is a defect in the structure of the heart and great vessels which is present in the birth. This problem is among most common birth defects and is the leading cause of birth defect-related deaths. 9 people per 1000 are born with CHD. Many heart anomalies location don't need treatment, but some complex CHD require medication and surgery. In case of defects connected with wrong location of the heart in thoracic cavity a patient needs compulsory surgical intervention.

Results. Main types of CHD connected with anomalies of the heart's location: 1. Dextrocardia. It's kind of defect when apex of the heart is situatedin the right side of the body. There two types of dextrocardia: Dextrocardia of embryonic arrest (isolated): in this form the heart is simply placed farther right in the thorax than is normal. It is commonly associated with severe defects of the heart and related abnormalities including pulmonary hypoplasia. Dextrocardia situs inversus. It is further divided: this type of defect refers to the heart being a mirror image situated on the right side. For all visceral organs to be mirrored. The correct term is dextrocardia situs inversus totalis. Kartagener syndrome may also be present in patients with dextrocardia situs inversus, but also involves mirrored position of major internal organs that causes male infertility. Dextrocardia is usually accompanied with such defect as transposition of great vessels, Tetralogy of Fallot, ventricular septal defect. 2. Mesocardia.It's atypical location of the heart when apex is situated in middleline of the thorax as in early embryonic life. This is the most rare heart location anomaly, 9% of cases. This kind of defect is usually accompanied by ventricular septal defect, Tetralogy of Fallot. 3. Levocardia. In this condition heart is on the correct side of the body(left), but the related structures are on the wrong side, either due to correct transposition of the great vessels or to situs inversus. Uusually this defect matches with anomaly of the venae cavae, Tetralogy and Pentalogy of Fallot, transposition of great vessels and one common ventricle. 4. Isolated levocardia.It's normal left-sided position of the heart with dextro position of the abdominal viscera. It has been reported with complex cardiac defects. This kind of defects is usually followed by such diseases as: transposition of great vessels, atrioventricular septal defect. 5. Situs Ambiguus or Visceral heterotaxy syndrome.This the defect when heart and other major visceral organs are distributed abnormally within the chest and abdomen. In this condition heart is situated on the right side within middleline of the chest, it has only one atrium. This defect is most dangerous of all. It is usually accompanied by: Fallot's tetralofy, transposition of the great vessels, pulmonary valve stenosis, ventricular and atrial septal defects. Children with this CHD die on the first year of life.

Conclusion. CHD connected with wrong position of the heart are suspected it is necessary to carry out a number of surveys on purpose to determine the type of heart's position, it's anatomic structure: electrocardigraphy, sonography, angiography.