

the ability to divide indefinitely, so this property has been used as a pillar and in search of new methods of treatment for previously incurable diseases.

**Purpose and Objectives:** Determination of cellular component of the amniotic fluid, studying the protocol for obtaining stem cells from amniotic fluid, and characterization of cellular component.

**Material and methods:** The study is made on the basis of 10 sources of amniotic fluid. Amniotic fluid is collected via amniocentesis or amniotic bag punctia. Amniotic fluid is centrifuged under the Protocol MLPA. Then the liquid centrifuged is fixed on the blade glass and studied under a microscope.

**Results:** Biological function of adult stem cells is to contribute to the healing process. Present cells in the amniotic fluid have origin of the embryo as well as outside of embryo. A mixture of morphological aspects, limited biochemical criteria, and growth characteristics led to the classification of amniotic fluid cells, which attach and form colonies under routine culture conditions, into three major groups: epitheloid E-type cells; amniotic fluid specific AF-type cells; fibroblastic F-type cells. Human amniotic epithelial cells constitute the inner layer of the amnion and are formed from the amnioblast on the eighth day after fertilization. It has long been proposed that Human amniotic epithelial cells could have the potential to differentiate into a wide variety of different organs, including heart, liver and brain.

**Conclusion:** Amniotic cells have a very strong growth rate, and sometimes their evolution cannot be kept in check. Amniotic fluid is a rich source of mesenchymal stem cells derived, and are similar to both embryonic stem cells and adult stem cells can differentiate into several cell types. Stem cells from amniotic fluid can be stored in banks, similar to umbilical cord blood stem cells, and have high rate of reproduction and can be operated without loss of chromosome integrity.

**Keywords:** Amniotic fluid cells, human stem cells, amniocentesis

## 11. USING RABBITS AS EXPERIMENTAL ANIMALS FOR MODELING APPENDECTOMY DURING PRACTICE-ORIENTED TRAININGS AS AN ALTERNATIVE TO ENGAGING IN AN EXPERIMENT DOGS

**Dehtiaruk Olha, Vinogradov Roman, Neborets Pavel, Hrebeniak Tetiana**

*Academic adviser:* **Khimich Alexey**, Assistant of the department of Operative surgery and topographic anatomy, National Pirogov Memorial Medical University, Vinnytsya, Ukraine

**Introduction:** Among the diseases of the abdominal cavity, requiring immediate surgery, the most frequent acute appendicitis. In connection with the execution of the rules of the obligation of experimental work in experimental animals, we are unable to demonstrate the technique of appendectomy on dogs because considered appropriate to use rabbits as an alternative to engaging in an experiment dogs.

**Purpose and Objectives:** To compare the topographic-anatomic location and structure of the appendix of rabbit with a human, as well as to simulate and compare the stages of appendectomy.

**Materials and Methods:** After studying and analyzing the literature data concerning the location and topographic anatomical structure of abdominal viscera clinically healthy rabbit, and the study of this is sue in the anatomical dissection of the rabbit, we have carried out a number of appendectomies in experimental animals as follows: after general anesthesia by intramuscular injection of 10% solution of sodium thiopental (0.5 ml per 1 kg of body weight), was carried out fixing the animal and site preparation section. The abdomen was opened through a midline incision average. Peritoneum is olated gauze. Conducted an audit of the abdominal cavity. Finding the cecum with vermiform appendix removed the min to the wound. Further mobilization process was carried out, direct ligation of the segmental branches outside the walls of the appendix, and the vessels going to the adjacent intestinal loop, and bandaging the appendicular artery. After mobilization, the base of the appendix silk ligature was applied, above which the process of crossing. Stump was treated with 5% solution of iodine. Inspection has been performed and hemostasis layers sutured abdominal wall.

**Results:** Comparison of topographic and anatomical features of the location and structure of the appendix with a human rabbit showed that these anatomical structures are very close. Accordingly, the technique of surgery carried out was close to an appendectomy in humans.



**Conclusions:** Based on the comparison of topographic and anatomical peculiarities of the location and structure of the appendix, as well as of surgery in rabbits can be concluded that the use of rabbits as experimental animals for modeling appendectomy during practice-oriented training is an alternative to engaging in experimental dogs is reasonable and will allow students to virtually secure knowledge of the topic and to gain practical experience of surgical intervention.

**Keywords:** Appendectomy, rabbits, experiment

## 12. INDIVIDUAL FEATURES OF THE AORTIC ARCH BRANCHES

**Dovnar A., Bancevich V.**

*Scientific adviser: Volchkevich D., Ph. D., Department of Normal Anatomy, Grodno, Belarus*

**Introduction:** Human artery is characterized by marked individual differences. They are characterized by an unequal number of major vascular routes, sources of blood supply to organs, different shape and branching features topography. A high incidence of human circulatory system necessitates the use of frequent surgical and diagnostic procedures. In this regard, the question arises of more in-depth study of the vascular bed of the human body, including the arteries and variant anatomy, their topography and branching. It should be noted that in recent years the study of the arterial bed of the human body makes it increasingly possible to observe options vessels, unlike those described in classical textbooks, which, undoubtedly, can aggravate the course of the operation. Not in all cases can be performed preoperative angiographic diagnosis of arteries, so the physician should be prepared to the individual characteristics of the arterial bed. In the literature there is a description of the different data about option vessels other than classical. So, A.M. Ochkurenko (1966) in 13% of cases found that two arteries departed from the aortic arch: brachiocephalic trunk and left subclavian artery. Less common variants have been described in the literature, refer to the vertebral arteries from the aortic arch of, with more than the left. In this case the aortic arch gave four branches. R. L. Herzenberg (1930) an interesting variant described, in which the right internal and external carotid arteries departed from brachiocephalic trunk. In this case the common carotid artery was absent. Our study was conducted at the Department of the normal anatomy of the Grodno State Medical University. We examined 11 human cadavers of both sexes in different age groups (45-75 years). The research was carried out using the following methods: dissection, morphometry. On one of the studied drugs was discovered nonclassical variant of the branch of the aortic arch, in which there is no brachiocephalic trunk. Vessels departed from right to left in the following order: right common carotid artery, left common carotid, left subclavian, right subclavian. Right subclavian artery departed behind the left homonymous by 10 mm, turned right and passed between the trachea and the esophagus, thus bending the esophagus at the distance of 41 mm from its origin. Thus, analyzing the results, we can conclude that not only small and medium-sized arteries are subjected to considerable variability, but large main trunks, which certainly must be taken into account both in practical training sessions and in the practice of medicine.

**Key words:** Variant, artery, arch of aorta

## 13. SALIVARY CYSTATINS – BIOLOGICAL ROLE AND DIAGNOSTICAL VALUE

**Ferdohleb Eugenia**

*Academic adviser: Tagadiuc Olga, MD, Ph. D., Associate professor, Head of Programs Department, State Medical and Pharmaceutical University "Nicolae Testemițanu", Chișinău, Republic of Moldova*

**Introduction:** This paper provides insights of the latest studies regarding the structure, properties and function of cystatins belonging to family II, salivary cystatins in particular.

**Materials and methods:** Relevant articles on the topic for the period from 1996 to 2013 were analyzed, using PubMed database and the following key words: cystatins, cysteine proteases, and salivary cystatins.