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| <p> ОҢТҮСТІК ҚАЗАҚСТАН MEDISINA AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ </p> | | <p>  SOUTH KAZAKHSTAN MEDICAL ACADEMY АО «Южно-Казахстанская медицинская академия» </p> |
| Department of “Topographic anatomy and histology” | | 52-11 |
| Lecture complex "Normal cardiorespiratory system" | | Page.1 of 8 |

LECTURE COMPLEX

Discipline: "Normal cardiorespiratory system"

Discipline code: NCS 2207


Name and code of the EP: 6B10117 "Dentistry"

Amount of study hours/credits: 30/1,0

Course and semester of study: 2/4

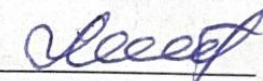
The volume of lectures: 2 hours.


Shymkent, 2024

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The lecture complex is designed in accordance with the working curriculum of the discipline (syllabus) "Normal cardiorespiratory system" and discussed at the meeting of the department of "Topographic anatomy and histology"

Protocol No. 1 from "03" 09 2024

Head of the department, c.m.s., acting professor  Murzanova D.A.

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| <p>Department of "Topographic anatomy and histology"</p> | | 52-11 |
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Lecture No. 1.


1. Topic: Histological structure of the cardiovascular system.

2. Purpose:

- Understanding the histological organization of the heart and blood vessels:
 - Identify the main tissues that make up the heart muscle and vascular walls.
 - Consider the architecture of the heart muscle and its role in cardiac activity.
- To study the structure and functions of blood vessels:
 - To study the structure of arteries, veins and capillaries, as well as their role in blood circulation.
 - Understand the role of the vascular system in providing blood supply to organs and tissues, including tissues of the oral cavity and facial skeleton.
- Understanding the relationship between the histology of the cardiovascular system and dental practice:
 - Discuss the relationship between the state of the cardiovascular system and oral health.
 - Understand what factors can affect the condition of blood vessels during dental interventions and treatment.

3. Lecture abstracts:

- Introduction to the histology of the cardiovascular system:
 - Definition of histology as the science of tissues and their organization in the body.
 - The importance of studying the histology of the cardiovascular system for dentists in the context of understanding the anatomy and physiology of the head and neck.
- Anatomy and histology of the heart:
 - Overview of the main structures of the heart: myocardium, endocardium, pericardium.
 - Consideration of the histological structure of the heart muscle, cellular composition and features of intercellular interaction.
- The structure of the vessels of the head and neck:
 - Description of the anatomy and histology of the arteries, veins and lymphatic vessels supplying the head and neck.
 - Study of the features of the structure of the vascular network in the head and neck, including arterial anastomoses and venous drainage pathways.
- The effect of the state of the cardiovascular system on dental practice:
 - Discussion of the importance of understanding the histological structure of the cardiovascular system for dentists during medical procedures in the head and neck.
 - Consideration of the relationship between diseases of the cardiovascular system and dental complications or risks.
- The clinical significance of histological analysis:
 - Emphasizing the importance of histological analysis in dentistry for the diagnosis and treatment of diseases such as cysts, tumors or inflammatory processes in the head and neck.
 - Discussion of possible pathological changes in the histology of the oral mucosa in diseases of the cardiovascular system.

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4. Illustrative material: Presentation, including:

- color micrographs of histopreparations
- electronograms, diagrams, drawings

5. Literature:

Main literature

1. Inderbir Singh. Textbook of Human Histology. With Color Atlas and Practical Guide/8 th Edition. Jaypee Brothers Medical Publishers .2016.-302 p. Перевод Гистология человека
2. Dudek Ronald W. Embryology / Ronald W. Dudek. - 5th ed. - [s. l.] : Wolters Kluwer, 2014. - 158 p. Перевод заглавия: Эмбриология
3. Gartner Leslie P. Cell Biology and Histology / Leslie P. Gartner. - 8th ed. - [s. l.] : Wolters Kluwer, 2019. - 436 p. - (BRS. Board Review Series) Перевод заглавия: Клеточная биология и гистология

Additional literature

Textbook of Human Histology. Inderbir Singh /Sixth Edition/Inderbir Singh 2010.-386 p.
Перевод Учебник по гистологии человека

Electronic publications

1. ATLAS OF HISTOLOGY with Functional Correlations. Thirteenth Edition, Wolters Kluwer. 2017.- 1102 p.
2. Theory and practice of Histological techniques. Eighth edition. Elsevier Limited. 2019.-554 p.
3. Textbook of Human Histology. With Color Atlas and Practical Guide/8 th Edition. Jaypee Brothers Medical Publishers .2011.-386 p.
4. USMLE Step 1. Lecture Notes 2018. by Kaplan. 2018.-425 p/
5. Zhumabayeva, S.E., Boken, T.S. Cytology and histology : Educational-methodical complex. . - Kokshetau: KGU, 2017. - 101 p. <http://rmebrk.kz/>
6. Бородулина, О.В. Цитология и гистология – Cytology and histology : Практикум. / Костанайский гос. педагогический университет им. У. Султангазина. - Костанай: КГПУ им. У. Султангазина, 2020. - 100 с. - <http://rmebrk.kz/>


6. Control questions (feedback):

- Morphofunctional characteristics of arteries.
- Sources of arterial development
- The structure of the membranes of the artery wall
- Morphofunctional characteristics of the vessels of the microcirculatory bed.
- Sources of development
- Arteriol-venular anastomoses
- Sources of heart development
- The structure of the membranes of the heart
- The structure of the vein wall – muscular and non -muscular type
- Age-related features

Lecture No. 2

1. Topic: Histological structure of the respiratory system.

2. Purpose:

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1. To introduce students to the structure of the respiratory system and its anatomical features.
2. Explain the role of the histological structure of the respiratory system in ensuring normal lung function.
3. Consider the differences in the histological structure of various parts of the respiratory system, such as the nasal cavity, trachea, bronchi and alveoli.
4. Discuss the influence of external factors on the condition and function of the respiratory system, such as air pollution, smoking and infections.
5. Emphasize the importance of understanding the histological changes in the respiratory system in various diseases such as bronchitis, pneumonia and asthma.
6. To discuss the clinical significance of knowledge about the histological structure of the respiratory system for the future work of dentists, especially in the context of assessing the general health of patients and treatment planning.
7. To emphasize the importance of histological analysis in the diagnosis and treatment of diseases of the respiratory system in dental practice.


3. Lecture theses:

1. General characteristics of the respiratory system:
 - Description of the anatomy and functions of the respiratory system.
 - An indication of the importance of understanding the histological structure of the respiratory system for dentists.
2. The structure of the upper respiratory tract:
 - Histological structure of the nose, nasopharynx, larynx and trachea.
 - The main components of the mucous membrane and their functions.
 - The role of the respiratory tract in the filtration and humidification of inhaled air.
3. The structure of the lower respiratory tract:
 - Histological structure of the bronchi and bronchioles.
 - Features of the structure of alveolar spaces and their role in gas exchange.
 - The effect of microflora on the condition of the mucous membrane of the respiratory system.
4. Lung development and its importance for dentistry:
 - Features of lung development during the intrauterine and postnatal periods.
 - The relationship between the histological structure of the lungs and organ function.
 - The importance of understanding the development and structure of the lungs for dental practice, including the prevention and treatment of diseases of the oral cavity and upper respiratory tract.
5. Clinical significance of histological examination of the respiratory system for dentistry:
 - The role of histological analysis in the diagnosis and treatment of diseases of the upper respiratory tract.
 - The influence of the state of the respiratory system on the development and course of dental diseases.
 - Practical application of knowledge about the histological structure of the respiratory system when performing dental procedures and treating patients.

4. Illustrative material: Presentation, including:

- color micrographs of histopreparations
- electronograms, diagrams, drawings

5. Literature:

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Main literature

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2. Dudek Ronald W. Embryology / Ronald W. Dudek. - 5th ed. - [s. l.] : Wolters Kluwer, 2014. - 158 p. Перевод заглавия: Эмбриология
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6. Control questions (feedback):

- morphofunctional characteristics of the respiratory system
- Sources and course of development
- airways
- bronchial tree
- the structure of the acinus
- the structure of the alveoli
- the concept of surfactant