ISSN 2181-3187

EXPLORING THE ANATOMY OF THE HEART: A STUDY FOR NURSING EDUCATION

Rakhmonova Mohinur Isroilovna
Abu Ali Ibn Sina Public Health Technical School, Department of Professional Subjects, Senior Lecturer Anatomy Subject
Rajabova Rohila Bakhshilloevna
Abu Ali Ibn Sina Public Health Technical School, Department of Professional Subjects, Senior Lecturer Anatomy Subject

Abstract The human heart is a vital organ that plays a central role in the circulatory system. Its detailed study is essential for nursing students to understand cardiovascular health and diseases. This paper provides an overview of the heart's anatomy, emphasizing its structural components and physiological functions. This foundational knowledge is crucial for nursing professionals to provide quality care in clinical settings.

Introduction The heart, a muscular organ roughly the size of a fist, is located in the thoracic cavity between the lungs. It functions as a pump to circulate blood throughout the body, supplying oxygen and nutrients to tissues and removing waste products. For nursing students, understanding the anatomy of the heart is a cornerstone for grasping broader concepts in physiology and pathology, enabling effective patient care.

Anatomical Structure of the Heart

1. **External Features**
   - **Shape and Size**: The heart is conical in shape, with a base directed upward and backward and an apex pointing downward and to the left.
   - **Coverings**: The heart is enclosed within the pericardium, a double-layered sac that provides protection and reduces friction during heartbeats.
2. **Internal Structure**
   - **Chambers**: The heart consists of four chambers—two atria and two ventricles.
     - **Atria**: The upper chambers receive blood. The right atrium receives deoxygenated blood from systemic circulation, while the left atrium receives oxygenated blood from the lungs.
     - **Ventricles**: The lower chambers pump blood. The right ventricle sends deoxygenated blood to the lungs, and the left ventricle pumps oxygenated blood to the body.
   - **Valves**: Four valves ensure unidirectional blood flow:

ISSN 2181-3187

- **Tricuspid Valve**: Between the right atrium and right ventricle.
- **Pulmonary Valve**: Between the right ventricle and pulmonary artery.
- **Mitral Valve**: Between the left atrium and left ventricle.
- **Aortic Valve**: Between the left ventricle and aorta.

3. **Blood Supply**

- The heart receives oxygen and nutrients via the coronary arteries, branching from the ascending aorta. Venous blood is drained through the coronary sinus into the right atrium.

Physiological Functions The heart operates as a double pump:

- **Pulmonary Circulation**: The right side of the heart pumps deoxygenated blood to the lungs for oxygenation.
- **Systemic Circulation**: The left side pumps oxygen-rich blood to the body. Electrical impulses generated by the sinoatrial (SA) node regulate the heartbeat, ensuring synchronized contraction of the atria and ventricles.

Clinical Relevance in Nursing Understanding heart anatomy helps nurses:

- Monitor vital signs such as heart rate and blood pressure.
- Recognize symptoms of cardiac conditions (e.g., chest pain, arrhythmias).
- Administer interventions like cardiopulmonary resuscitation (CPR) effectively.

Conclusion Mastery of heart anatomy is indispensable for nursing professionals. It forms the basis for diagnosing and managing cardiovascular disorders, contributing to improved patient outcomes. Ongoing education in anatomy and related disciplines is recommended to keep pace with advancements in medical science.

References

1. Tortora, G. J., & Derrickson, B. (2017). *Principles of Anatomy and Physiology* (15th ed.). Wiley.
2. Marieb, E. N., & Hoehn, K. (2018). *Human Anatomy & Physiology* (11th ed.). Pearson.
3. Moore, K. L., Dalley, A. F., & Agur, A. M. R. (2018). *Clinically Oriented Anatomy* (8th ed.). Wolters Kluwer.
4. American Heart Association. (2023). "Understanding Heart Anatomy and Physiology." Retrieved from https://www.heart.org
5. Hall, J. E. (2020). *Guyton and Hall Textbook of Medical Physiology* (14th ed.). Elsevier.
6. .Navruzova U.O., Negmatullayeva M.A // Modern Aspects of Etiopatogenez of the Generalized Periodontal Disease.-The Pharmaceutical and Chemical Journal, 2022,7 (6):

ISSN 2181-3187

7. .Navruzova U.O., Sanoqulov L. A // Improving the Effectiveness of the Study, Treatment and Prevention of Caries in Children with Type 1 Diabetes.-European Multidisciplinary Journal ofModern Science, 2022,9(75): 78
8. .Наврузова У.О., Хамидова Н.Қ., Юсупов Ш.А- Evropean journal of pharmaceutical and medical research Journal. 2019 №3. С-108-113.
9. Наврузова У.О., Генерализаллашган пародонтит этиопатогенезининг хозирги замон аспектлари //Биология и Интегративная Медицина. 2019 №3. С. 64-70 .
10. Наврузова У.О., Особенности пародонтита при нарушении обмена веўеств // Биология и Интегративная Медицина 2019 №3. С.28-40 .
11. Наврузова У.О., Современные аспекты этиопатогенеза генерализованного пародонтита (обзор литературы) //Биология и интегративная медицина.2019 №2. С-62- 89