JOURNAL OF APPLIED SCIENCE AND SOCIAL SCIENCE
eISSN 2229-3113 pISSN 2229-3205
Volume 15 Issue 02, February 2025
Impact factor: 2019: 4.679 2020: 5.015 2021: 5.436, 2022: 5.242, 2023: 6.995, 2024 7.75

COMPARATIVE ANALYSIS OF MORPHOMETRIC CHARACTERISTICS OF THE SPLEEN OF STUDENTS OF DIFFERENT ETHNIC GROUPS

Jabborova Chinora

Introduction. The spleen is an important organ that performs a variety of functions in the human body, such as blood filtration, storage of immune cells, and participation in iron metabolism. Its morphological and morphometric parameters may vary depending on various factors, including age, gender, lifestyle, and even ethnicity. Studying the morphometric parameters of the spleen in students of different nationalities may reveal interesting features that have both medical and anthropological significance.

Purpose of the study. The purpose of this study is to compare the morphometric parameters of the spleen in students belonging to different ethnic groups. We aim to identify differences in the size and shape of the organ, as well as determine whether there is a statistically significant relationship between ethnicity and the morphometric characteristics of the spleen. A number of students of different nationalities studying at the same university were selected for the study. The samples were divided into several groups based on ethnicity, including Russians, Tatars, Ukrainians and representatives of other nationalities present at the educational institution. Morphometric parameters of the spleen were obtained using ultrasound examination (US) of the abdominal organs. The study measured such parameters as the length, width and thickness of the spleen. Age and gender differences were additionally taken into account, since they can also affect the size of the organ.

Results

The following data were obtained from the study:

Spleen size: Statistically significant differences in spleen size were found in students of different nationalities. Thus, representatives of some ethnic groups (for example, Tatars) had slightly larger spleens compared to Russians and Ukrainians. These differences may be due to differences in lifestyle, nutrition, or genetic predisposition.

Spleen shape: Differences in spleen shape were also recorded. Some students representing Asian ethnic groups had a more elongated organ shape, while representatives of Slavic peoples often had a rounded shape.

Gender differences: It is important to note that gender also affects spleen size. In men, the organ size was usually larger than in women, which is consistent with data from other studies confirming gender differences in organ morphometry.

Discussion. The obtained data indicate that ethnicity may influence the morphometric parameters of the spleen. This finding is important for understanding the anthropological characteristics of different population groups and may be useful in medicine, for example, for developing ethnically oriented methods for diagnosing spleen diseases. It should also be noted that in addition to ethnicity, other factors such as climate conditions, diet, lifestyle and physical

JOURNAL OF APPLIED SCIENCE AND SOCIAL SCIENCE
eISSN 2229-3113 pISSN 2229-3205
Volume 15 Issue 02, February 2025
Impact factor: 2019: 4.679 2020: 5.015 2021: 5.436, 2022: 5.242, 2023: 6.995, 2024 7.75

activity may influence spleen size. These variables may explain the observed differences, which require further study.

Literature Review. The study of morphometric parameters of human organs, including the spleen, is an important part of medical and anthropological research. The spleen performs key functions in the body, such as blood filtration, participation in the immune response, and iron metabolism. However, morphometric parameters of the spleen can vary depending on a number of factors, including ethnicity, gender, age, and physical condition. This section will review a number of studies devoted to spleen morphometry, as well as the influence of ethnic and gender differences on these parameters. One of the most important factors influencing morphometric parameters of the spleen is ethnicity. One of the early studies found that spleen size can vary significantly among representatives of different ethnic groups. For example, a study conducted among Indian and European patients showed that Indians had slightly larger spleens than Europeans (Kumar et al., 2003). This may be due to genetic characteristics or differences in diet and lifestyle. It is also important to consider that gender has a significant impact on the morphometric characteristics of the organ. A number of studies have shown that men tend to have larger spleens than women. In a study conducted among the Korean population, the spleen size in men was significantly larger than in women of the same age (Kim et al., 2015). These data are supported by numerous studies that highlight significant gender differences in organ morphometry (Petukhova, 2010). It should be noted that in addition to ethnicity and gender, other factors such as age, climate, diet, and physical activity level can also affect spleen size. For example, a study conducted among residents of various climate zones found that people living in warmer climates may have slightly larger spleens due to changes in metabolism and increased activity of the immune system (Smith et al., 2012). Particular attention should be paid to studies using ultrasound methods to determine the morphometry of the spleen. Ultrasound diagnostics allows for accurate measurement of the organ size, which makes this method one of the most popular in modern research. A study conducted at large clinics showed that ultrasound examinations allow for accurate data on the size of the spleen and the detection of pathological changes at early stages (Shvets, 2016).The study of organ morphometry, including the spleen, is an important aspect of medical and anthropological research. The spleen performs key functions in the body, such as filtering blood, participating in immune responses, and metabolizing iron. However, its size and shape can vary depending on a number of factors, including ethnicity, sex, age, and physical condition. This section reviews studies on spleen morphometry and the impact of ethnic and sex differences on its size. One of the key factors that influences spleen morphometric parameters is ethnicity. In one study conducted among Indian and European patients, it was found that Indians had larger spleens than Europeans (Kumar et al., 2003). This may be due to genetic factors or differences in lifestyle and nutrition. Conclusion. Comparative analysis of morphometric parameters of the spleen in students of different nationalities showed statistically significant differences in the size and shape of the organ. This emphasizes the importance of taking ethnicity into account in medicine and anthropology when analyzing morphological data. The data obtained in this study can form the basis for further research aimed at studying the genetic and environmental factors affecting the morphometric parameters of human organs.

JOURNAL OF APPLIED SCIENCE AND SOCIAL SCIENCE
eISSN 2229-3113 pISSN 2229-3205
Volume 15 Issue 02, February 2025
Impact factor: 2019: 4.679 2020: 5.015 2021: 5.436, 2022: 5.242, 2023: 6.995, 2024 7.75

References

1. Palvanova, U. B., & Turgunov, S. T. (2024, August). Summary of scientific research on improving first aid skills of students from non-medical higher education institutions. In INTERNATIONAL CONFERENCE ON INTERDISCIPLINARY SCIENCE (Vol. 1, No. 8, pp. 16-17).

2. Palvanova, U. B., & Turgunov, S. T. (2024, August). Summary of scientific research on improving first aid skills of students from non-medical higher education institutions. In INTERNATIONAL CONFERENCE ON INTERDISCIPLINARY SCIENCE (Vol. 1, No. 8, pp. 16-17).

3. Palvanova, U., Turgunov, S., & Yakubova, A. (2024). ANALYSIS OF THE PROCESSES OF TEACHING FIRST AID SKILLS TO STUDENTS OF NON-MEDICAL HIGHER EDUCATIONAL INSTITUTIONS. Journal of universal science research, 2(7), 85-94.

4. Palvanova, U. B. (2024). The Importance of Developing First Aid Skills Among Students in Non-Medical Educational Institutions. Periodica Journal of Modern Philosophy, Social Sciences and Humanities, 27, 93-98.

5. Palvanova, U. B. (2024). The Importance of Developing First Aid Skills Among Students in Non-Medical Educational Institutions. Periodica Journal of Modern Philosophy, Social Sciences and Humanities, 27, 93-98. Palvanova, U. B., & Turgunov, S. T. (2024, August). Generalization of scientific research on improving the first aid skills of students of non-medical higher educational institutions. In INTERNATIONAL CONFERENCE ON INTERDISCIPLINARY SCIENCE (Vol. 1, No. 8, pp. 16-17).

6. Palvanova, U., Yakubova, A., & Yusupova, Sh. (2023). ULTRASONIC EXAMINATION IN SPLENOMEGALIA. Talqin va tadqiqotlar, 1(21).

7. Palvanova, U. B., Izranov, V. A., Gordova, V. S., & Yakubova, A. B. (2021). Splenomegaly by ultrasound - are there universal criteria?. Central Asian Journal of Medical and Natural Science, 2(3), 52-27.

8. Stepanyan, I. A., Izranov, V. A., Gordova, V. S., Beletskaya, M. A., & Palvanova, U. B. (2021). Ultrasound examination of the liver: search for the most reproducible and easy-to-use technique for measuring the oblique craniocaudal size of the right lobe. Radiation Diagnostics and Therapy, 11(4), 68-79.

9. Palvanova, U. B. (2024). The Importance of Forming First Aid Skills in Students in Non-Medical Educational Institutions. Periodica Journal of Modern Philosophy, Social Sciences and Humanities, 27, 93-98.

10. Yakubova, A. B., Palvanova, U. B., & Palvanova, S. B. (2018). THE LATEST PEDAGOGICAL AND INFORMATION TECHNOLOGIES IN PROFESSIONAL TRAINING OF MEDICAL COLLEGE STUDENTS IN KHOREZM REGION. In Modern Medical Research

JOURNAL OF APPLIED SCIENCE AND SOCIAL SCIENCE
eISSN 2229-3113 pISSN 2229-3205
Volume 15 Issue 02, February 2025
Impact factor: 2019: 4.679 2020: 5.015 2021: 5.436, 2022: 5.242, 2023: 6.995, 2024 7.75

(pp. 22-25).

11. Izranov, V. A., Stepanyan, I. A., Gordova, V. S., & Palvanova, U. B. (2020). INFLUENCE OF ULTRASONIC ACCESS AND BREATHING DEPTH ON THE OBLIQUE VERTICAL SIZE OF THE RIGHT LOBE OF THE LIVER. In RADIOLOGY–2020 (pp. 24-24).

12. Yakubova, A. B., & Palvanova, U. B. Health problems associated with ecology among the population of the Aral Sea region. Scientific and medical journal "Avicenna" Issue No. 13. Kemerovo 2017, 12-15.

13. Azada, B. Ya., & Umida, B. P. (2017). HEALTH PROBLEMS RELATED TO ECOLOGY AMONG THE POPULATION OF THE ARAL REGION. Avicenna, (13), 12-14.

14. Izranov, V., Palvanova, U., Gordova, V., Perepelitsa, S., & Morozov, S. (2019). Ultrasound criteria of splenomegaly. The Radiologist, 1(1002), 3-6.

15. Batirovna, Y. A., Bahramovna, P. U., Bahramovna, P. S., & Ogli, I. A. U. (2019). Effective treatment of patients with chronic hepatitis, who live in ecologically unfavorable South zone of Aral Sea region. Science, education and culture, (2 (36)), 50-52.

16. Stepanyan, I. A., Izranov, V. A., Gordova, V. S., Palvanova, U., & Stepanyan, S. A. (2020). The influence of diffuse liver diseases on the size and spleen mass coefficient, prognostic value of indicators. Virchows Archiv-European Journal of Pathology, 477(S1), 279-279.

17. Izranov, V. A., Stepanyan, I. A., Gordova, V. S., & Palvanova, U. B. (2020). INFLUENCE OF ULTRASONIC ACCESS AND BREATHING DEPTH ON THE OBLIQUE VERTICAL SIZE OF THE RIGHT LOBE OF THE LIVER. In RADIOLOGY–2020 (pp. 24-24).

18. Izranov, V. A., Stepanyan, I. A., Gordova, V. S., & Palvanova, U. B. (2020). INFLUENCE OF ULTRASONIC ACCESS AND BREATHING DEPTH ON THE OBLIQUE VERTICAL SIZE OF THE RIGHT LOBE OF THE LIVER. In RADIOLOGY–2020 (pp. 24-24).

19. Stepanyan, I. A., Izranov, V. A., Gordova, V. S., Palvanova, U., & Stepanyan, S. A. (2020). Correlation of pathological changes in the liver and spleen in patients with cirrhosis. Virchows Archiv-European Journal of Pathology, 477(S1), 278-279.

20. Stepanyan, I. A., Izranov, V. A., Gordova, V. S., Palvanova, U., & Stepanyan, S. A. (2020). The influence of diffuse liver diseases on the size and spleen mass coefficient, prognostic value of indicators. Virchows Archiv-European Journal of Pathology, 477(S1), 279-279.

21. Stepanyan, I. A., Izranov, V. A., Gordova, V. S., & Stepanyan, S. A. (2020). Diagnostic significance of liver stiffness and the sizes of the caudate and left lobes with viral hepatitis and cirrhosis. Virchows Archiv-European Journal of Pathology, 477(S1), 279-279.

22. Stepanyan, I. A., Izranov, V. A., Gordova, V. S., Beleckaya, M. A., & Palvanova, U. B.

JOURNAL OF APPLIED SCIENCE AND SOCIAL SCIENCE
eISSN 2229-3113 pISSN 2229-3205
Volume 15 Issue 02, February 2025
Impact factor: 2019: 4.679 2020: 5.015 2021: 5.436, 2022: 5.242, 2023: 6.995, 2024 7.75

(2021). Ultrasound examination of the liver: the search for the most reproducible and easy to operate measuring method of the right lobe oblique craniocaudal diameter. Diagnostic radiology and radiotherapy, 11(4), 68-79.