

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

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Abstract: The article presents a comparative analysis of the morphometric characteristics of the spleen in students of different ethnic groups. The study aims to identify differences in the size and shape of the spleen among representatives of various ethnic groups, such as Russians, Tatars, Ukrainians, and others. Ultrasound examinations were used to obtain data, measuring the length, width, and thickness of the spleen. The results revealed statistically significant differences in the organ's morphometry based on ethnic affiliation. Gender differences were also considered, confirming that men have, on average, larger spleens than women. The findings may be useful for developing ethnicity-oriented methods for diagnosing and treating spleen-related diseases.

Keywords: morphometry, spleen, ethnic affiliation, students, ultrasound examination, gender differences, anthropology, ethnic differences, disease diagnosis.

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.

Objective of the study. The objective of this study is to perform a comparative analysis of 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 to determine whether there is a statistically significant relationship between ethnicity and 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 by 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 as a result of the study:

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

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

3. **Sex differences** : It is important to note that sex also influences spleen size. Males tended to have larger spleens than females, which is consistent with other studies that have documented sex 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 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 of 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 diet.

Conclusion. Comparative analysis of morphometric parameters of the spleen in students of different nationalities showed the presence of statistically significant differences in the size and shape of the organ. This emphasizes the importance of taking into account ethnicity 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.

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