

CHARACTERISTICS OF THE MAIN ANATOMICAL CHANGES AND DIRECTIONS IN THE BONY ORBIT AGING

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Introduction. Data about changes in the dimensions and volume of bony orbit during human aging are important at multiple stages and in several fields of medicine, including diagnosis, treatment, and patient care. Relationships between normal and deviated bony and/or soft tissue impact not only the clinical picture but also the areas and level of the resection and reconstruction. There can appear different challenges and problems especially if visual images of the influenced bony orbit are not available or specialists have no access to them. While there exist important relationships between anatomical structures and aging, the current literature offers only sufficient data about bony orbit, underlining changes in bony orbital dimensions and volume.

The aims of this study were to obtain scientific literature data from the years 2000 - 2022 and to provide a review of the main anatomical changes with their directions in adult body orbit, regarding age and gender.

Materials and Methods. The study was conducted at the Department of Morphology where an extensive literature search was undertaken from the following indexed databases: Medline, PubMed, Scopus, Web of Science, CrossRef, and Google Scholar. The literature search was limited and included only the studies with relevant information. It was based on key terms of the anatomical details in relation to the aging of the bony orbit.

Results. The bony orbit is a structure with a directed posteriorly apex and well-defined bony components at the base. To understand the changes in the aging of the bony orbit it is convenient to underline that with the increase of age, facial bones will have specific changes. These bones will undergo changes in the shape of the orbit, the increase in height and area of the orbit, and the inferior orbital edge shifts back. The most frequent results of the studies provide insight into the aging changes of the bony orbit by using analysis of the three-dimensional computed tomographic scans. Understanding and quantifying differences in orbital volume and linear measurements provide additional information for interpreting these images.

Through several studies, some authors believed that the bony orbit remodeled with aging and experienced an overall increase in size with the recession of the orbital rims (Pessa et al., 2002). In regards to the aging of the bony orbit, the primary location of changes was identified as the inferolateral orbital rim. In the analyzed bony orbits of 107 Koreans, there was found that the height of the superior and inferior rims of the orbit did not change significantly in both genders (Jeon et al., 2020). Through automatic measurements and analysis for the bony orbital area and height of 595 people from Zhejiang, China, it was found that a significant increase of the lateral and inferior orbital rim was in males but for females, there was an increase only in the inferior orbital rim (Pan et al., 2022).

Further, according to other studies, it was found that the orbital areas of males and females had different changing trends with age. In addition, the aging changes of bony orbit had different tendencies between populations. In reconstructed craniofacial CT data of 60 American subjects, the orbital aperture width, and orbital area significantly increased with age, earlier in adult females than males (Kahn et al., 2008). Data of studied 303 Chinese adults showed that with the

increase in age, the orbital area of women would decrease and the orbital area of women at any age was smaller than that of men (Weil et al., 2016).

Conclusions. The analysis of the available literature suggests that the primary outcomes of bony orbit aging changes and directions make the attention of scientists to the bony orbital rim, orbital area, and different their expressions related to gender and population. The understanding of how the bony orbits age and what impact that may have on different medical fields is one that is still developing, and we would like to suggest further research on this topic in the near future and would like to mention that such efforts would serve as a review for relevant specialties with regards to assessment of the changes during bony orbit aging.

ГОСТРА СУДИННА ШЕМІЧНА НЕЙРОПАТІЯ, ЩО ВИНИКЛА ВНАСЛІДОК ПЕРЕНЕСЕНОГО COVID-19

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Актуальність. Однією з головних ланок у патогенетичному ланцюгу коагулопатії, асоційованої з COVID-19, виділяють цитокінівий шторм, в якому активуються імунні комплекси, патологічно впливаючи на систему згортання людини. Цитокінівий шторм - каскад прозапальних реакцій, що призводить до високої частоти тромбозів, гострих оптичних судинних нейропатій.