

Radiologic Assessment of Orbital Dimensions Among Omani Subjects: Computed Tomography Imaging-Based Study

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Abstract : The orbit and its contents are affected by various pathologies and craniofacial anomalies. Sound knowledge of the normal orbital dimensions is clinically essential for successful surgical outcomes and also in the field of forensic anthropology. Racial, ethnic, and regional variations in the orbital dimensions have been reported. This study sought to determine the orbital dimensions of Omani subjects who had been referred for computed tomography (CT) images at a tertiary care hospital. A total of 273 patients' CT images were evaluated retrospectively by using an electronic medical records database. The orbital dimensions were recorded using both axial and sagittal planes of CT images. The mean orbital index (OI) was found to be 83.25 ± 4.83 and the prevalent orbital type was categorized as mesoseme. The mean orbital index was 83.34 ± 5.05 and 83.16 ± 4.57 in males and females, respectively, with their difference being statistically not significant ($p=0.76$). A statistically significant association was observed between the right and left orbits with regard to horizontal distance ($p<0.05$) and vertical distance ($p<0.01$) of orbit and OI ($p<0.05$). No significant difference between the OI and age groups was observed in both males and females. The mean interorbital distance and interzygomatic distance were found to be 19.45 ± 1.52 mm and 95.59 ± 4.08 mm, respectively. Both of these parameters were significantly higher in males ($p<0.05$). Results of the present study provide reference values of orbital dimensions in Omani subjects. The prevalent orbital type of Omani subjects is mesoseme, which is a hallmark of the white race.

Keywords : orbit, orbital index, mesoseme, ethnicity, variation

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