

Morphological Anatomical Study of the Axis Vertebra and Its Clinical Orientation

Authors : Mangala M. Pai, B. V. Murlimanju, Latha V. Prabhu, P. J. Jiji , Vandana Blossom

Abstract : Background: To study the morphological parameters of the axis vertebra in anatomical specimens. Methods: The present study was designed to obtain the morphometric data of axis vertebra. The superior and inferior articular facets of the axis were macroscopically observed for their shapes and the different parameters were measured using the digital Vernier caliper. It included 20 dried axis bones, which were obtained from the anatomy laboratory. Results: The morphometric data obtained in the present study are represented in the tables. The side wise comparison of the length and width of the articular facets of the axis vertebra were done. The present study observed that, there is no statistically significant difference observed among the parameters of right and left side articular facets ($p > 0.05$). The superior and inferior articular facets were observed to have variable shapes. The frequencies of different shapes of superior and inferior articular facets are represented in figures. All the shapes of the inferior and superior articular facets were symmetrical over the right and left sides. Among the superior articular facets, the constrictions were absent in 13 cases (65%), 2 (10%) exhibited a single constriction, 3 (15%) had 2 constrictions and 2 (10%) were having 3 constrictions. The constrictions were absent in 11 (55%) of the inferior articular facets, 3 (15%) of them had 1 constriction, 3 (15%) were having 2 constrictions, 2 (10%) exhibited 3 constrictions and 1 (5%) of them had 4 constrictions. The constrictions of the inferior and superior articular facets were symmetrical over the right and left sides. Conclusion: We believe that the present study has provided additional information on the morphometric data of the axis vertebra. The data are important to the neurosurgeons, orthopedic surgeons and radiologists. The preoperative assessment of the axis vertebra may prevent dangerous complications like spinal cord and nerve root compression during the surgical intervention.

Keywords : axis, articular facet, morphology, morphometry

Conference Title : ICMMA 2015 : International Conference on Microscopic and Macroscopic Anatomy

Conference Location : Barcelona, Spain

Conference Dates : August 17-18, 2015