

Morphometric Study Of Odontoid Process Of Axis Vertebrae In North Gujarat Population.

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Abstract

Introduction: Odontoid process is cone shape process, project cranially from the superior surface of the body of C2. 73% of spinal cord injuries are due to injury to vertebral column. Injury to C1-C 2 complex account for 15-19% of cervical spine injuries. The body of C2 vertebra and odontoid process has been focused in variety of spinal surgery like anterior atlanto-axial, anterior occipito-cervical fixation and anterior odontoid process fixation. This requires knowledge regarding the various parameters of the odontoid process.

Material and Method: Study was conducted on 60 dry axis vertebrae of human origin, in 2020; in 2 medical colleges of North Gujarat University.

Following 9 parameters are measured by manual vernier caliper and goniometer

1. Anterior height of dens body complex
2. Anterior height of body of C2
3. Transverse diameter of body at lower end
4. Antero-posterior diameter of body at lower end
5. Anterior height of dens
6. Posterior height of dens
7. Max. antero-posterior diameter of dens
8. Max. transverse diameter of dens
9. Sagittal angle of dens: angle between coronal plane and axis of dens

Result: Mean anterior height of dens-body complex is 36.73 mm. Mean anterior height of body of C2 is 20.65 mm. Mean transverse diameter and antero-posterior diameter of C2 at base is respectively 15.34 mm and 17.05 mm. Mean anterior and posterior height of dens is respectively 16.07 mm and 14.34 mm. Mean of maximum antero-posterior and transverse diameter of dens is 10.35 mm and 9.69 mm respectively. Sagittal angle shows wide range of variation from - 2 to 15 degree. **Conclusion:** Morphometry of these parameters of body and dens of C2 are useful in various orthopedic and neurological surgeries and also helpful to anthropologists and forensic experts too.

Keywords: Atlas ring, Axis vertebra, Dens, Odontoid process, Os odontoideum, Sagittal angle