

Sex Determination by Computerized Tomographic Study of Foramen Magnum in Adults

Patil KS¹, Rao NG², Joshi SK³

¹Assistant Professor, Department of Forensic Medicine & Toxicology, Late B.R.K.M. Government Medical College, Jagdalpur (CG) India, ²Ex-Professor, ³Professor & Head, Department of Radio-diagnosis, SDM College of Medical Sciences & Hospital, Sattur, Dharwad (KA) India

ABSTRACT

Skeletal remains in the identification of sex have been used for long period. Skull is considered second best, after pelvis in determination of sex. Methods based on morphological characteristics and morphometry have been in use with good accuracy. The standardized radiographic techniques have advantage over morphological methods being calculable and reproducible. The objective of the study was to obtain the reliability of foramen magnum parameters in sex estimation and to test the accuracy of the radiological method adopted. A total of 105 (55 male & 50 female) Three dimensional axial skull base images from the North Karnataka population were selected. Using Fisher's linear discriminant functions test, three parameters namely, the length of left condyle (LLC), width of foramen magnum (WFM) and maximum bicondylar diameter (MBD) emerged to be statistically significant in each sex ($p < 0.05$) with an overall accuracy of 70.48%, in sex prediction.

Keywords: Foramen magnum (FM); Forensic Anthropology; Computerized tomography; Sex determination; Three dimensional reconstruction; Discriminant function analysis.

Corresponding author:

Patil KS,

Assistant Professor, Department of Forensic
Medicine & Toxicology, Late B.R.K.M. Government
Medical College, Jagdalpur (CG) India
Email: drforensic10@gmail.com