INCIDENCE OF SUTURAL BONES AT PTERION IN SOUTH INDIAN DRIED SKULLS

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ABSTRACT

Introduction: Sutural or Wormian bones are usually small irregular ossicles in related with the cranial sutures. They are formed because of the extra ossification centers in the vicinity of sutures.

Materials and Methods: Study conducted on 75 dried human skulls to find the incidence and type of sutural bones at pterion in related to south Indian population.

Results: Present study concluded 4% of prevalence out of 75 cases, Right side one case and left side 2 cases were noticed, all were epipteric type of sutural pattern.

Conclusion: Anatomical Knowledge of this kind of variations are important for anthropologists, radiologists, orthopaedic surgeons, and neurosurgeons.

KEY WORDS: Skull, Wormian bones, Sutural bones.

INTRODUCTION

A sutural or wormian bone is occasionally present at the pterion at the junction of the parietal, frontal, greater wing of the sphenoid, and squamous part of the temporal bones on temporal fossa. This bone is called pterion ossicle or epipteric bone or Flower’s bone [1]. Pterion is an important landmark for age, sex determination and also in archaeological studies. According to Broca [2], pterion was classified into three types, sphenoparital, frontotemporal, and stellate and epipteric and later Murphy [3] classified this into four types sphenoparital, frontotemporal, stellate and epipteric types. Knowledge of incidence of sutural bone at pterion is radiological importance so variations at pterion useful for neurosurgeons, radiologists, and anthropologists.

MATERIALS AND METHODS

Present study was conducted in 75 dried adult human skulls of unknown sexes in the department of anatomy, Bhaskar Medical College, Yenkapally village, Moinabad Mandal, Ranga Reddy District, Telangana, south India. This study concluded the occurrence of sutural
bones at pterion and its type in south Indian population.

RESULTS

Fig. 1: Right side temporal fossa of skull shows RSB: Right Sutural Bone.

Fig. 2: Left side temporal fossa of skull shows LSB: Left Sutural Bone.

Fig. 3: Left side temporal fossa of skull shows LSB: Left Sutural Bone.

Present study was found unilateral occurrence of sutural bones at pterion in 3 skulls out of 75 and, the incidence was 4 percent. Bilateral sutural bones at pterion were not noticed in any case. In the Present study Right side one case (Fig. 1) left side 2 cases were noticed (Fig. 2 and 3). All the occurrence cases were related to epipteric type according to Murphy’s classification.

DISCUSSION

According to Bergman et al., 40% of skulls have sutural bones in the lambdoid suture [4]. The reason for the occurrence of the wormian bones may be regulated by a genetic factor [5]. Sutural bones incidence is more in Indian skulls, according to Saxena et al., studies 11.79% of Indian skulls had this kind of bones [6]. Nair et al., [7] showed that the gross incidence of epipteric or wormian bones at pterion was 6% and the percentage of occurrence of single large epipteric bone was more than the small multiple epipteric bones. Satheesha Nayak B et al., noticed one sutural bone at pterion on right side in Indians [8]. Husssien Sahib. S et al., showed the presence of two sutural bones at right side and a single unilateral sutural bones on left side at pterion [9]. Raju Sugavasi et al., noticed single unilateral sutural bone on left side at pterion in indian population [10]. According to Pryles C V et al., the presences of such variant sutural bones are usually associated with cranial and central nervous system anomalies [11]. Ersoym M et al., recommended that the presence of epipteric bones at pterion region may cause complications while performing Burr holes during neuro-surgeries [12].

CONCLUSION

Incidence of unilateral presence of sutural bones at pterion is 4% in south Indian population. Presence of sutural or epipteric bones at pterion region may be mistaken for fracture of skull. Such epipteric bones at pterion region may be the reason for complications while performing Burr holes during neuro-surgeries.

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