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UNUSUAL SUTURAL BONE AT PTERION – A CASE REPORT

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ABSTRACT

Sutural (wormian) bones are accessory bones which occur within the cranial sutures and fontanelles. Sutural bones of the cranial vault are formations associated with insufficient rate of suture closure and regarded as epigenetic and hypostatic traits. The Pterion is the H shaped suture present at the junction between Frontal, Parietal, Greater wing of sphenoid and Temporal bone at lateral side of skull. We are reporting a case of unusual large sutural bone at left side of the pterion region in an adult skull. Knowledge of this variation is very important for, radiologists, orthopedic surgeons, neurosurgeons and anthropologists.

Keywords: Pterion, Sutural Bone, Pterion ossicle and Epipteric bone.

INTRODUCTION

Sutural bones are small irregular bones generally found at cranial sutures. Additional ossification centers may occur in or near sutures, which may give rise to isolated sutural bones. Sutural bones are irregular in shape, variable in size and number, from skull to skull. The Pterion is the H shaped suture present at the junction between Frontal, Parietal, Greater wing of sphenoid and Squamous part of Temporal bone. Pterion corresponds to the site of antero lateral (Sphenoidal) fontanelle on the neonatal skull ^[1].

Sutural bone which is occasionally present at pterion is called as pterion ossicle or epipteric bone or flower's bone ^[2, 3].

Case report

During the routine osteology demonstration classes for undergraduate medical students we observed a single sutural bone on the left side of the pterion. This variant sutural bone which is found at the junction between Frontal, Parietal, Greater wing of sphenoid and Squamous part of Temporal bone is large in size, rhomboidal in shape and unilateral (FIGURE : 01). The other side of skull is found to be normal.

DISCUSSION

Studies by Bergman et al (1988) ^[4] reveal that nearly 40% of skulls have sutural bones in the vicinity of the lambdoid suture and The next most common is the epipteric bone found near the anterolateral fontanelle. According to El-Najjar et al (1977) ^[5], the presence of sutural bones may be regulated by genetic factors. Sutural bones are found to be single or multiple. Burgener et al (1997) ^[6] observed a higher

incidence of multiple sutural bones in congenital disorders like osteogenesis imperfecta, cretinism, cleidocranial dysostosis, progeria, rickets etc.

Various studies on Indians showed a higher incidence of epipteric bone. According to Saxena et al (1988) ^[7] the incidence rate of epipteric bone in Indian skulls was 11.79 %. Satheesha nayak. B et al (2008) ^[8] showed three sutural bones at right pterion and Hussian Sahib. S et al (2010) ^[9] showed the presence of two sutural bones at right side and two cases of single unilateral sutural bones on left side. Studies by Nair et al (2011) ^[10] showed that the gross incidence of epipteric bones at pterion was 6% and the percentage of single large epipteric bone was more when compared to the small multiple epipteric bones. Their studies also showed that the epipteric bones were more on right side than on left side.

According to Pryles C V et al (1979) ^[11], the presences of such variant sutural bones are usually associated with cranial and central nervous system anomalies. Ersoym M et al (2003) ^[12] suggested that the presence of epipteric bones at pterion region may cause complications while performing Burr holes during neuro-surgeries.

CONCLUSION

This article reviews the clinical importance of unusual occurrence of sutural bone at the pterion. We are reporting a case of unusual single large sutural bone on the left side pterion in an adult skull. Presence of such sutural bones at pterion region may be mistaken for fracture of skull. The knowledge of this variation is useful for radiologists, orthopedic surgeons. Complications while performing Burr holes during neuro surgeries can be avoided with this knowledge.

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Figures & Legends

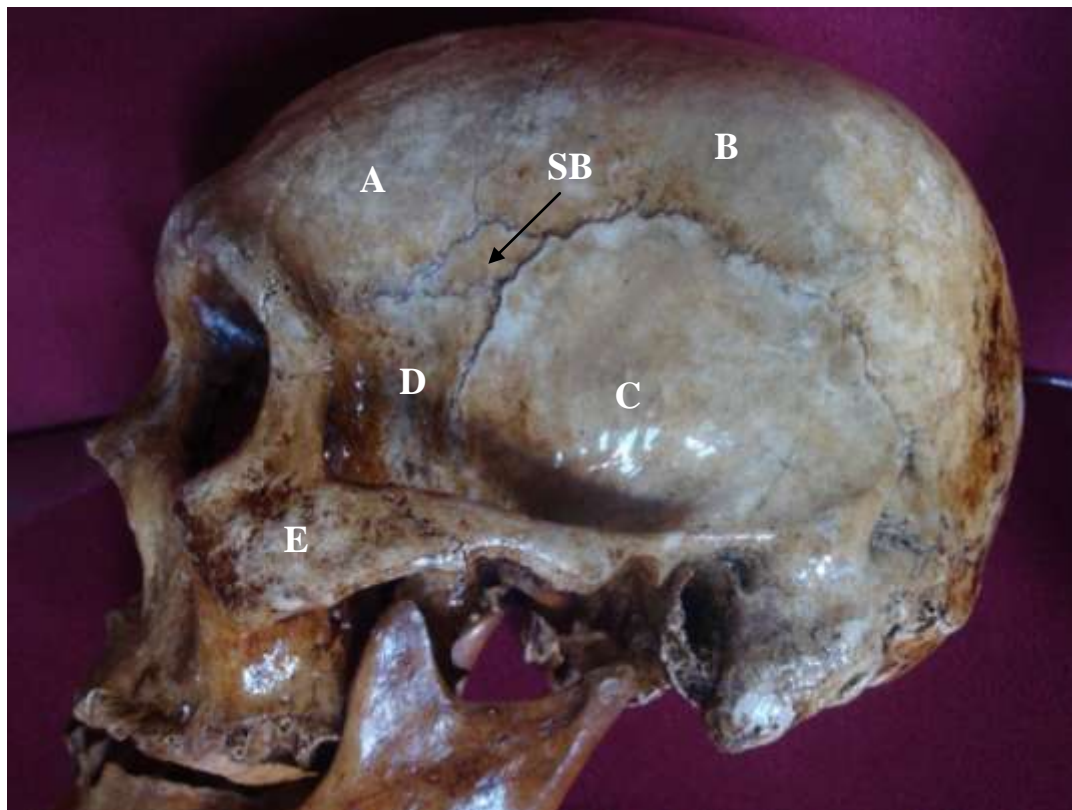


FIGURE: 01. LEFT LATERAL VIEW OF THE SKULL SHOWING SUTURAL BONE AT THE PTERION. (A: FRONTAL BONE, B: PARIETAL BONE, C: TEMPORAL BONE, D: GREATER WING OF SPHENOID BONE, E: ZYGOMATIC BONE, SB: SUTURAL BONE)