

## Unusual sutural bones at pterion

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### ABSTRACT

The existence of Wormian (sutural) bones in the skull is well known. We found three unusual Wormian bones at the right pterion in an adult Indian skull. The variation noted was unilateral. This type of variation has not been reported yet. © IJAV, 2008; 1: 19–20.

**Key words** [pteron] [skull] [wormian bone] [sutural bone] [epipteric bone] [pteron ossicle]

### Introduction

Sutural bones or Wormian bones are small irregular shaped bones found at the cranial sutures. Their size, shape and number vary from skull to skull. A sutural bone is occasionally present at the pterion or junction of the parietal, frontal, greater wing of the sphenoid, and squamous portion of the temporal bones. This bone is called “pteron ossicle” or “epipteric bone” or Flower’s bone. We found three sutural bones at the pterion.

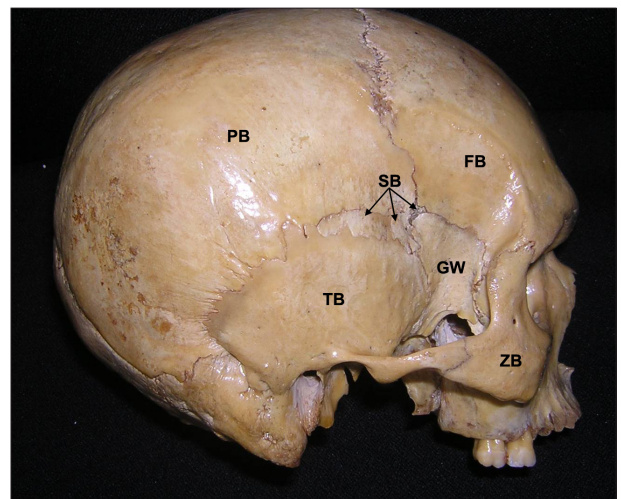
### Case Report

During the routine osteology demonstration class for undergraduate medical students, three Wormian bones were noted at the pterion in an Indian adult skull (Figures 1 and 2.). The abnormal bones were found only on the right pterion region. Among the three bones, the smallest one was at the meeting point of frontal, sphenoid and parietal bones; the medium sized bone was between parietal, sphenoid and temporal bones and the largest was between the temporal and parietal bones. These three bones together gave a fractured look to the pterion. There were no other abnormalities in the skull.

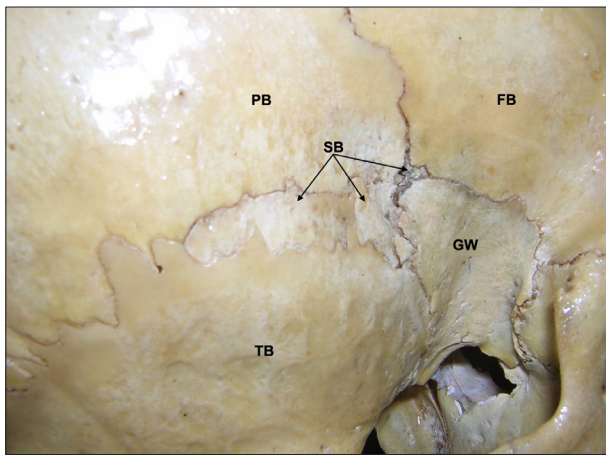
### Discussion

Wormian bones (sutural bones) are very commonly found in the skull. According to Bergman et al., [1], nearly 40% of skulls have sutural bones in the vicinity of the lambdoid suture. The next most common is the epipteric bone (pteron ossicle) found near the former anterolateral fontanelle. There can be another Wormian bone called

preinterparietal bone or inca bone at the lambda [2, 3, 4]. The presence of sutural bones is usually associated with cranial and central nervous system anomalies [5, 6]. But there are cases where there were no anomalies associated with the sutural bones [7]. The presence of the sutural bones may be regulated by a genetic factor [8]. The incidence of epipteric bone is high in Indians. A study



**Figure 1.** Lateral view of the skull showing sutural bones at the pterion. (PB: parietal bone, FB: frontal bone, TB: temporal bone, GW: greater wing of sphenoid bone, SB: sutural bones, ZB: zygomatic bone)



**Figure 2.** Closer view of the pterion with the sutural bones. (**PB**: parietal bone, **FB**: frontal bone, **TB**: temporal bone, **GW**: greater wing of sphenoid bone, **SB**: sutural bones)

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by Saxena et al., showed that 11.79% of Indian skulls had epiptereric bone [9]. There are no reported cases of three epiptereric bones in one skull. The presence of epiptereric bones may lead to complications in making burr holes at the pterion [10]. Knowledge of presence of more than one sutural bone at pterion is radiological importance. The sutural bones may be mistaken for fracture of skull in case of trauma of the pterion region. This report may be useful for the neurosurgeons, radiologists and anthropologists.