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Short report

Study of the shapes of Sutural Bones In Western India

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ABSTRACT

The sutural bones or wormian bones are common in skull. Aim of present study: The aim of the present study is to evaluate the shapes of the sutural bones. Materials and methods: In the present study 310 adult human crania of known sex (155 male and 155 female) were taken. Observations: The different shapes like irregular, triangular, circular and quadrangular were observed. The most of the sutural bones were having irregular shape. Conclusion: The sutural bones are important because they can mislead for diagnosis the fracture of the skull.

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1. Introduction

The non metrical cranial variants are of considerable interest because of their racial and regional importance. The sutural bones are isolated ossicles of variable size and shape within the cranial sutures and at fontanelles. They are ossified from independent centers and usually include the whole thickness of the cranial vault. They may involve only the inner and outer table [1].

The formations of sutural bones are associated with insufficient rate of suture closure regarded as Epigenetic trait[2].

2. Material and Methods

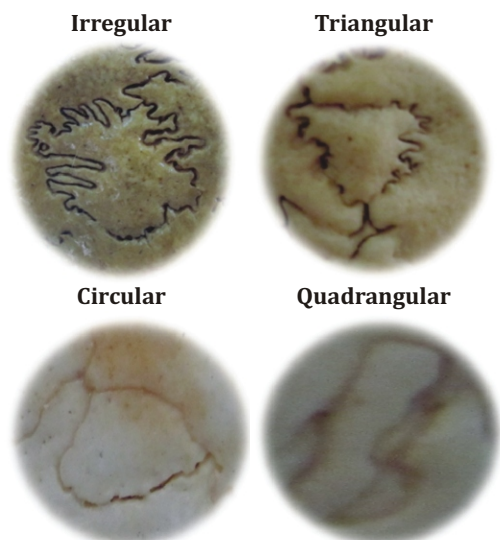
The present study was conducted to evaluate various shapes of the sutural bones by visual method. Total 310 crania (155 male and 155 female) of known sex were taken for the present study. Fully ossified adult crania were included in the present study. The crania showing wear and tear or any pathology were excluded.

3. Observations

The various shapes of sutural bones like irregular, quadrangular, triangular and circular were observed in table no 1.

Shapes of sutural bones	No. in Male	Percentages	No. in Female	Percentages
Total	325	100	320	100
Irregular	224	68.92 %	185	57.81%
Quadrangular	31	9.54%	36	11.25%
Triangular	41	12.62%	51	15.94%
Circular	29	8.92%	48	15.00%

Maximum numbers of sutural bones are having irregular shape followed by quadrangular, triangular and circular shape in male and female crania. (figure no 1)



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4. Discussion

Bennett suggested that wormian bones were not under direct genetic control, but instead represented secondary sutural characteristics which were brought about by stress[3].

The study of Walulkar SM et al was carried out on 225 adult human skulls. This study evaluated various sizes, shapes of wormian bones. Most commonly shapes of these bones were irregular followed by the oval shape[4].

Nayak SB observed Multiple wormian bones at the lambdoid suture in an Indian skull[5]. Isabare M defined the sutural bones as "They persisting within the suture and not incorporated into the adjacent bone during mineralization and maturation are called wormian bones after the Danish anatomist 'Olaus Worm'[6].

5. Conclusion

The knowledge of sutural bones is clinically important. The presence of series of sutural bones may lead to problems in posterior approach to the cranial cavity. These bones might lead to confusions in reading the radiographs in case of head injuries they may be mistaken for the multiple fractures [7].

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