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Research Article

A STUDY OF PARIETAL FORAMEN IN NORTH INDIAN POPULATION

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ABSTRACT
Studies of non metric cranial variants have been a field of considerable interest to research workers like (Todd and Tracy, 1930). Many such variants have been observed on a racial basis also (Berry and Berry, 1967) especially because of their racial and regional importance. 40 north Indian skulls of U.P. were studied for the parietal foramen, a cranial variant, in the present study. Findings are discussed and compared with other global studies and they are found to be of considerable regional and racial significance. Bilaterally parietal foramen was found in 12 numbers of crania (30%), there were 7 crania with unilateral parietal foramina in the left side (8.75%) and 4 crania with the unilateral parietal foramina in the right side (5%) was found. Therefore 43.75% of the parietal foramen found in the present study. Parietal foramens were found absent in 17 numbers of crania (42.5%).

Keywords: *Cranial Variant, Parietal Foramen, North India*

INTRODUCTION
Non-metric cranial variants have been a subject of study by many pioneering workers like Todd *et al.,* (1930). Many such variants have been observed on a racial basis also by Berry *et al.,* (1967) and are of considerable ethnic but lesser forensic interest. Berry (1975) made a special study of non metrical human cranial variants.
Present study is undertaken to know the incidence of variant of parietal foramen and to draw significant conclusion, if any, from this study.

MATERIALS AND METHODS
40 north Indian human crania were studied for this study. 28 human crania were studied from museum of the Anatomy department of Rohilkhand Medical College and Hospital, Bareilly were studied and 12 number of human crania were studied from the museum of the Anatomy department of Institute of Medical Sciences, Banaras Hindu University, Varanasi. Incidence of parietal foramen was noted in these crania; attention was also paid to whether this foramen were bilaterally present or unilaterally present and if unilateral whether it is more on right side or left side.

RESULTS AND DISCUSSION
Results
Out of 40 crania studied, parietal foramen bilaterally was found in 12 numbers of crania (30%) (Figure 1), there were 7 crania with unilateral parietal foramina in the left side (8.75%) and 4 crania with the unilateral parietal foramina in the right side (5%) was found. Therefore 43.75% of the parietal foramen found in the present study (Table 1). Parietal foramens were found absent in 17 numbers of crania (42.5%).
Discussion
Cranial variants have aroused the curiosity of anatomists for many decades Le Double (1903). It was Wood (1930-31), however who first proposed that the differing incidences of these minor variants which occurred in different races might be useful in anthropological studies. Laughlin *et al.,* (1956) put this idea in practice and Berry *et al*., (1967) suggested that a wide range of these variants could be used to calculate a distance statistic between population samples.
This paper is concerned with description and racial & regional incidence of one of the important cranial variant, the parietal foramen.

Research Article

Cranial variants like all other variants have been studied by many workers; most of them are recognized only by mention in anatomical text books, being described in terms such as rare or occasionally found; nevertheless a few of them have been utilized as anthropological markers Broth (1963), Broth (1965). Some variants are consequences of disease or other extrinsic influences Moller-Christensen *et al.*, (1963), Roche (1964) and Dorsey (1897), however most of these variants result from normal developmental processes and are genetically determined (Berry & Berry, 1967).

The frequency of any particular variant is more or less constant in a given rare and is somewhat similar in related races. Chambellan (1883) seems to have been first to suggest the possibility of using such traits as anthropological characters.

Russel (1900) gathered together data on a number of skull variants in American group and gave the first indication of their use in the comparison of populations .Wood (1933-34) used data on skull variants in a more systemic comparison number of far eastern group.

Berry (1975) made a special study of non metrical human cranial variations including the parietal foramen. His findings are given in the table no.1.

In our study, it was observed that the parietal foramen is present in 50% cases.

Hence the current study provides valuable data from U.P. the largest state of India, and compares the same with data of different global regions.

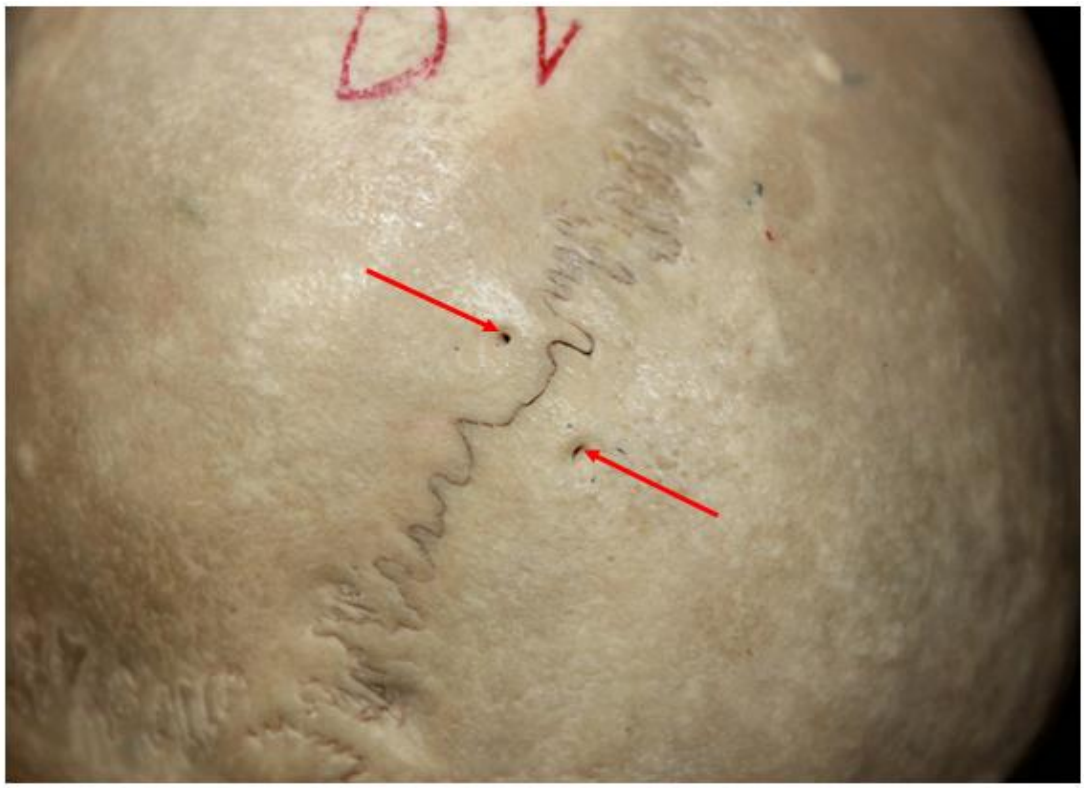

Figure 1: Showing parietal foramen (*Arrow*)

Table 1: Incidence of Parietal foramen (Berry, 1975)

Egypt (summed)	Nigeria (Ashanti)	Palestine (Lachish)	Palestine (Modern)	India (Punjab)	Burma	North America (British Columbia)	South America (Peru)	Our study (U.P) North India
250 Skulls	56 skulls	54 Skulls	18 skulls	53 skulls	51 skulls	50 skulls	53 skulls	40 Skulls
44.2%	59.2%	35.2%	22.2%	50%	50%	62%	62%	43.75%

Conclusion

In our study, it was observed that the parietal foramen is present in 50% cases.

The present study provides valuable data from U.P. the largest state of India, and compares the same with data of different global regions. The findings are of considerable racial and regional global significance.

REFERENCES

Berry AC (1975). Factors affecting the incidence of non-metrical skeletal variants. *Journal of Anatomy* **120** 519-535.

Berry AC and Berry RJ (1967). Epigenetic variation in the human cranium. *Journal of Anatomy* **101** 361- 380.

Broth Well DR (1963). Digging up bones. *The Excavation, Treatment and Study of Human Skeletal Remains* 192 (London: British museum (Natural History)).

Broth Well DR (1965). Of mice and men. Epigenetic polymorphism in the skeleton. In: *Homenaie a Juan Comas en su 65 Aniversaria,* edited by Caso A *et al.,* **2** 9-21 Mexico.

Chambellan M (1883). Etude Anatomique et Anthropologique sur les Os Wormiens. Thesis, Paris, cited by Dorsey (1897).

Dorsey GA (1897). Wormian bones in artificially deformed Kwakiutl crania. *American Anthropology* **10** 169-173.

Laughlin WS and Jorgensen JB (1956). Isolate variation in Greenlandic Eskimo crania. Acta genet, Statist, met. **6** 3- 12.

Le Double AF (1903). *Variations des Os du Crane* (Paris: Vigot) 400.

Moller-Christensen V and Sandison AT (1963). Usura orbitae (cribra orbitalia) in the collection of crania in the Anatomy department of university of Glasgow. *Microbial Pathogenesis* **26** 175-183.

Roche AF (1964). Aural exostoses in Australian aboriginal skulls. *Annals of Otology, Rhinology, and Laryngology* **73** 1-10.

Russel F (1900). Studies in cranial variation. *American Naturalist* **34** 737-747.

Todd TW and Tracy B (1930). Racial features in American Negro cranium. *American Journal of Physical Anthropology* **15** 53-110.

Wood- Jones F (1933-1934). The non-metrical morphological characters of the skull as Criteria for racial diagnosis IV. *Journal of Anatomy* **68** 96-108.

Wood-Jones F (1930-1931). The non-metrical morphological characters of the skull as criteria for racial diagnosis I, II, III. *Journal of Anatomy* **65** 179-195: 368-378: 438-445.