

A Study of Posterior Ethmoidal Foramen Absence in North Indian Crania

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ABSTRACT

Studies of nonmetric cranial variants have been a field of considerable interest to research workers, especially because of their racial and regional importance.

Twenty-eight North Indian skulls of Uttar Pradesh, India, were studied for the posterior ethmoidal foramen absence, a cranial variant in the present study. Findings are discussed and compared with other global studies and are found to be of considerable regional and racial significance.

Keywords: Cranial variant, Posterior ethmoidal foramen absence.

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INTRODUCTION

The posterior ethmoidal foramen lies just behind the anterior ethmoidal foramen. It may be absent.

Nonmetric cranial variants have been a subject of study by many pioneering workers.¹ Many such variants have been observed on a racial basis also² and are of considerable ethnic, but lesser forensic interest. Berry³ made a special study of nonmetric human cranial variants including accessory lesser palatine foramina.

This study is undertaken to know the incidence of variants of posterior ethmoidal foramen absence and draw significant conclusion, if any.

MATERIALS AND METHODS

Twenty-eight North Indian human crania were studied. Human crania from the museum of Rohilkhand Medical College and Hospital, Bareilly, Uttar Pradesh, India, were studied.

Incidence was noted in these crania.

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Fig. 1: Posterior ethmoidal foramen absence

RESULTS

Out of 28 skulls studied, posterior ethmoidal foramen absence was not seen in any of the skulls (0% absence, Fig. 1).

DISCUSSION

Cranial variants have aroused the curiosity of anatomists for many decades (e.g., Le Double).⁴ It was Wood-Jones,⁵ however, who first proposed that the differing incidences of these minor variants, which occurred in different races, might be useful in anthropological studies. Jorgensen and Laughlin⁶ put this idea into practice and, in 1967, Carolineberry and Berry suggested that a wide range of these variants could be used to calculate a distance statistic between population samples.

This article is concerned with the description and racial and regional incidences of posterior ethmoidal foramen absence, one of the important cranial variants.

Cranial variants like all other variants have been studied by many workers; most of them are recognized only by mention in anatomical textbooks, being described in terms, such as rare or occasionally found; nevertheless, a few of them have been utilized as anthropological markers.^{7,8} Some variants are consequences of disease or other extrinsic influences⁹⁻¹¹; however, most of these variants result from normal developmental processes and are genetically determined.²

The frequency of any particular variant is more or less constant in a given race, and is somewhat similar in

Table 1: Posterior ethmoidal foramen absence³

<i>Egypt (summed)</i>	<i>Nigeria (Ashanti)</i>	<i>Palestine (Lachish)</i>	<i>Palestine (Modern)</i>	<i>India (Punjab)</i>	<i>Burma</i>	<i>North America (British Columbia)</i>	<i>South America (Peru)</i>	<i>Our study (Uttar Pradesh) North India</i>
250 skulls	56 skulls	54 skulls	18 skulls	53 skulls	51 skulls	50 skulls	53 skulls	28 skulls
3.7%	0%	0%	0%	0%	0%	0%	1.9%	0%

related races. Chambellan¹² seems to have been first to suggest the possibility of using such traits as anthropological characters.

Russel, in 1900, gathered together data on a number of skull variants in the American group and gave the first indication of their use in the comparison of populations. Wood-Jones^{5,13} used data on skull variants in a more systemic comparison of Far Eastern groups.

Berry³ made a special study of nonmetrical human cranial variations including absence of posterior ethmoidal foramen. His findings are given in Table 1.

In our study, it was observed that posterior ethmoidal foramen was present in all crania (absence 0%) (Table 1).

Hence, the current study provides valuable data from Uttar Pradesh, 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.

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