

# A study of Lambdoid Ossicles in Rohilkhand regions of Western U.P. Crania.

Zaidi S.H.H<sup>1</sup>, Kumar Sarangdhar<sup>2</sup>, Gupta Rakesh<sup>1</sup>

<sup>1</sup>Professor, Department of Anatomy, Rohilkhand Medical College & Hospital, Bareilly.

<sup>2</sup>Assistant professor, Department of Anatomy, Rohilkhand Medical College & Hospital, Bareilly.

Received: September 2016

Accepted: October 2016

**Copyright:** © the author(s), publisher. It is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

**Background:** Studies of non-metric cranial variants have been a field of considerable interest to research workers especially because of their racial and regional importance. **Methods:** Total of 40 Indian human crania of Rohilkhand region was studied for the incidence of lambdoid ossicles a cranial variants. **Results:** Lambdoid ossicle was found in 11 (27.5%) of total human crania. **Conclusion:** The presence of lambdoid ossicles found to be of considerable regional and racial significance.

**Keywords:** Lambdoid ossicles, cranial variant.

## INTRODUCTION

One and more ossicles may occur at lambdoid suture. Non-metric cranial variants have been a subject of study by many pioneering workers Todd and Tracy.<sup>[1]</sup> Many such variants have been observed on a racial basis also Berry and Berry<sup>[2]</sup> and are of considerable ethnic but lesser forensic interest. Berry<sup>[3]</sup> made a special study of non metrical human cranial variants including Lambdoid sutures. Present study is undertaken to know the incidence of lambdoid ossicles, variant of Lambdoid sutures and to draw significant conclusion, if any, from this study.

### Name & Address of Corresponding Author

Sarangdhar Kumar  
Assistant professor,  
Department of Anatomy,  
Rohilkhand Medical College & Hospital, Bareilly.

## MATERIALS AND METHODS

40 human crania were studied for this study. Human crania of museum of Rohilkhand medical college Bareilly were studied. Incidence of lambdoid ossicle at Lambdoid suture was noted in these crania.

## RESULTS

The Lambdoid ossicle is often present and it was noted in 27.5% skull in the museum of anatomy

department of rohilkhand medical college, Bareilly. It was seen in 11 skull out of 40 skull.



**Figure 1: Arrow shows lambdoid ossicle**

## DISCUSSION

Cranial variants have aroused the curiosity of anatomists for many decades Le Double.<sup>[4]</sup> It was Wood Jones,<sup>[5]</sup> however who first proposed that the differing incidences of these minor variants which occurred in different races might be useful in anthropological studies. Laughlin & Jorgensen<sup>[6]</sup> put this idea in practice. Berry & Berry suggested that a wide range of these variants could be used to calculate a distance statistic between population samples.<sup>[2]</sup>

This paper is concerned with description and racial & regional incidence of lambdoid ossicles one of the important cranial variant.

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 Brothwell<sup>[7,8]</sup>. Some variants are consequences of disease or other extrinsic influences Moller-christensen & Sandison<sup>[9]</sup>, Roche<sup>[10]</sup> and Dorsey<sup>[11]</sup>; however most of these variants result from normal developmental processes and are genetically determined Berry & Berry.<sup>[2]</sup>

The frequency of any particular variant is more or less constant in a given rare and is somewhat similar in related races. Chambellan<sup>[12]</sup> seems to have been first to suggest the possibility of using such traits as anthropological characters.

**Table 1: Comparison of other studies**

Workers	Global region	Skull studied	Incidence (%)
Berry	Egypt (Summed)	250	12.9
	Palestine (Lachish)	54	6.5
	Palestine (Modern)	18	8.3
	Nigeria (Ashanti)	56	14.3
	North America (British Columbia)	50	19
	South America (Peru)	53	14.2
	Burma	51	9.8
	India (Punjab)	53	8.5
<b>Our study</b>	Rohilkhand region (western U.P.)	40	27.5

Russel<sup>[13]</sup> 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. Woodjones<sup>[14]</sup> used data on skull variants in a more systemic comparison number of far eastern group.

Berry<sup>[3]</sup> made a special study of non metrical human cranial variations including lambdoid ossicles. His findings are given in the Table 1.

In our study: It was observed that lambdoid ossicles were present in 27.5% of crania.

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.

The findings are of considerable racial and regional global significance.

## CONCLUSION

After comparison with available data of other races and regions, we have seen that there is significant difference in incidence of lambdoid ossicle in Rohilkhand region (Western U.P.) then the incidence in other global region; hence we believe that the knowledge of lambdoid ossicles at lamdoid suture is of importance to the anthropologists,

neuro anatomist, neurosurgeons, radiologists, and morphologists.

## REFERENCES

- Todd T W, Tracy B. Racial features in American nigro cranium. *Am J Phys Anthropol* 1930; 15: 53-110.
- Berry A C, Berry R J. Epigenetic variation in the human Cranium. *J. Anat.* 1967; 101: 361-380.
- Berry A C. Factors affecting the incidence of non-metrical skeletal variants. *J Anat.* 1975; 120(3): 519-535.
- Le Double A F. Variations des Os du crane. Paris: Vigot; 1975. p. 400.
- Wood-jones F. The non- metrical morphological charecters of skull as criteria for racial diagnosis: Part III. The non-metrical morphological charecters of the skull of pre historic inhabitants of Guam. *J. A nat.* 1931; 65(4): 438-445.
- Jorgensen J B, Laughlin W S. Isolate variation in greenlandic Eskimo crania. *Acta Genet Stat Med.* 1956; 6(1Part2): 3-12.
- Brothwell D R. Digging up bones. The excavation, treatment and study of human skeletal remains. 1963; pp192. London: British museum (Natural History).
- Brothwell D R. Of mice and men. Epigenetic polymorphism in the skeleton. 1965; INCASO, A, et al, (Eds) *Homenaie a juan comas en su 65 Aniversaria*, 2,9-11. Mexico.
- Moller-Christensen V, Sandison AT. Usura orbitae (enbra orbitalia) in the collection of crania in the anatomy department if university of Glasgow. *Path microbiol.* 1963; 26: 175-183.
- Roche AF. Aural exotoses in Australian aboriginal skulls. *Ann Otol Rhinol Laryngol.* 1964; 73: 82-91.
- Dorsey GA. Wormian bones in artificially deformed Kwakiutl crania. *Am Anthropol.* 1897; 10: 169-173.
- Chambellan M. Etude Anatomique et Anthopologique sur les Os wormiens. 1883; thesis, paris. Cited by Dorsey, 1897.
- Russel F. Studies in cranial variation. *Am. Nat.* 1900; 34: 737-747.
- Wood-jones F. The non- metrical morphological charecters of skull as criteria for racial diagnosis: Part IV. The non-metrical morphological charecters of the northern chinese skull. *J. Anat.* 1933; 68(1): 96-108.

**How to cite this article:** Zaidi SHH, Kumar S, Gupta R. A study of Lambdoid Ossicles in Rohilkhand regions of Western U.P. Crania. *Ann. Int. Med. Den. Res.* 2016; 2(6): AT13-AT14.

**Source of Support:** Nil, **Conflict of Interest:** None declared