Conference Abstract

DAY 1 15th September 2023 (Friday)	ORAL 2	3.30-5.00 pm	Scientific Session 8

A study on symmetry of important paired foramina in human skulls

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Background: The cranial fossa of human skull presents numerous paired foramina. This study focuses on the bilateral symmetry of 5 paired foramina-Optic canal, Foramen rotundum, Foramen ovale, Internal acoustic meatus and Jugular foramen. Variations in bilateral symmetry in these foramina may be anatomical, physiological or pathological. This can bring about differences in the orientation of the structures passing through them.

Aim: To evaluate the presence of bilateral symmetry of the following foramina-

1. Ovale
2. Optic canal
3. Jugular foramen
4. Rotundum
5. Internal auditory meatus

Methodology: Following clearance from KIMS-IEC, the study was conducted in the anatomy department at KIMS. Thirty human undamaged skulls without calvaria of presumed south Indian originwere procured and numbered. Each of the paired foramina were measured along twodimensions using a caliper and the values were recorded. For foramen rotundum, the diameter was recorded whenever circular and along two dimensions when not circular. Variations in any of the chosen foramen were documented. Photographs of the skulls were taken. The data collected was analyzed to find out which of the paired foramen were more likely to be symmetrical.

Results: Foramen Total pairs Exactly symmetric. Not symmetric with a difference in dimension by just 1mm Percentage of exactly symmetric pairs Ovale 29 11 5 37.9%, Rotundum 29 25 4 86.2% Jugular 30 5 1 16.6%, for a men Internal auditory meat us 30 21 7 70%, Optic Canal 26 18 4 69.2%

Conclusion: Foramen rotundum shows most consistency in symmetry(86.2%), while jugular foramenshows maximum variations in shape, size and is least likely to be bilaterallysymmetric(16.6%).

The order of bilateral symmetry of foramina is as follows-

1.Rotundum-86.2%

2.Internal auditory meatus-70%

3.Optic canal- 69.2%

4.Ovale-37.9%

5.Jugular foramen-16.6%

This data is of value to radiologists, surgeons, forensic specialists, anthropologists and anatomists.

Key Words: Symmetry, Optic Canal, Foramen Rotundum, Paired foramen