

**MORPHOLOGICAL VARIATIONS IN THE JUGULAR FORAMEN
AND HYPOGLOSSAL CANAL OF HUMAN SKULLS
IN A SRI LANKAN POPULATION**

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Study of metric and non-metric cranial variations has clinical and anthropological significance because they vary considerably among different populations. The present study was carried out to identify the morphological variations of jugular foramen and hypoglossal canal in a Sri Lankan Population.

Descriptive analytical study was conducted using seventy five dry skulls stored in the Faculty of Medicine and Faculty of Dental Sciences. Jugular foramen bridging (septation), the presence or absence of domed bony roof over jugular foramen, and the presence or absence of hypoglossal canal bridging were observed bilaterally. Furthermore, maximum anteroposterior and mediolateral (between the medial-most and lateral-most points) diameters of the jugular foramen, the depth of the jugular fossa and mediolateral (between the medial-most and lateral-most points) diameter of the jugular fossa when dome is present were measured using a digital vernier caliper to the nearest 0.01mm. Undamaged human skulls were procured for measurements and observations. Damaged skulls with unidentifiable features of jugular foramen and hypoglossal canal were excluded. The measurements and observations were done by one investigator to avoid inter-observer error. In order to minimize the intra-observer error, twenty skulls were re-observed and re-measured after three months of the first observation or measurement and the result was compared with the original observation and measurement.

Partial septation was observed in about 70% of the total skulls observed in both left and right jugular foramen whereas complete septation was observed in 14.7% of the left and 10.6% of the right jugular foramen. The dome indicating the presence of a jugular bulb was present on the right side only in 34.9% and left side in 47.6% of skulls. Meanwhile, jugular fossa was observed in 53.8% of the skulls on the right side and 47.6% of the cases on the left. Furthermore, hypoglossal canal septation was observed in 10.6% of the skulls on the right and 17.2% on the left. The size of the jugular foramen and depth of the jugular fossa were larger on the right side. Present study shows either complete or partial septation of the jugular foramen in more than 80% of the population. Hypoglossal canal septation is seen in 10-15% of the cases.