side and 13.05–20.22 mm on left side and transverse diameter was 4.06–9.71 mm and 6.4–10.01 mm on right and left side respectively.

Conclusion: The diameter of foramen magnum is useful to determine radiological malformations and prior to cutting of foramen magnum or posterior cranial fossa. The shapes can guide surgeons in instrumentation and manipulation around this reason. Thus the morphology of foramen magnum and jugular foramen are important for neurosurgeons radiologists and anthropologists.

Conflicts of interest

The authors have none to declare.

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Morphological and morphometric study of jugular foramen in western Rajasthan population

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Introduction: The jugular foramen (JF) lies at the base of the skull between the occipital bone and the petrous part of the temporal bone. It allows for the passage of important nervous and vascular elements, such as the glossopharyngeal, vagus and accessory nerves, and the internal jugular vein. The jugular foramen is difficult to understand and to access. It is difficult to conceptualize because it varies in shape and size because of its complex irregular shape, its curved course, its formation by two bones.

Materials and methods: 100 jugular foramina of persons of unknown age and gender were examined in Dr. S.N. Medical College, Jodhpur. Metric measurements were taken by using vernier calipers. The mean standard deviation and range of each dimension and derived index were compared.

Result: In 65% cases the right foramina were larger than the left; in 25% of cases the left foramina were larger than right and in 10% cases they were equal in size on both sides. The mean length of the foramen on the right and left were 17.19 ± 3.66 mm and 15.47 ± 3.25 mm; the width measured 6.68 ± 1.99 mm and 5.78 ± 2.07 mm on the right and left respectively; the mean area on the right was 382.22 ± 179.18 mm and on the left 292.47 ± 147.14 mm.

Conclusion: There was statistical significance between the two sides in the length and area but there was no significant difference between the two sides in the width. There was a positive correlation between length and width on each side.

Conflicts of interest

The authors have none to declare.

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Morphometry of superior articular surface of head of radius

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Introduction: The human elbow joint has three different articulations surrounded by a common joint capsule. These joints are the humeroulnar joint, humeroradial joint, and the proximal radioulnar joint. The Humeroradial joint is a shallow ball-and-socket, hinge-type of synovial joint. This study aims to provide morphometric data concerning the superior articular surface of head of radius.

Materials and methods: In a sample of 30 dry specimen of the radius, high-precision measurements were recorded to derive a statistical inference concerning: the maximal depth of the superior articular surface, its average diameter, the articular surface area, and its concavity volume. The depth and the diameter were measured using an electronic vernier. Measuring the surface area and volume at such a small-scale was a challenge. Hence, three methods were deployed: a mathematical method, a cast-material technique, and a low-surface tension fluid application.

Results: The 95% confidence intervals were 1.847–2.119 mm (depth), 18.963–20.445 mm (diameter), 2.961–3.451 cm^2 (surface area), and 0.277–0.359 cm^3 (volume). There was a strong positive correlation for: depth vs. volume, depth vs. area, area vs. volume, diameter vs. depth, diameter vs. area, and diameter vs. volume. However, the correlation was absent (not significant) for age vs. diameter (p-value 0.361), age vs. depth (p-value 0.937), age vs. area (p-value 0.342), age vs. volume (p-value 0.512), limb orientation vs. area (p-value 0.149), limb vs. volume (p-value 0.146).

Conclusion: This is the first study of its kind, to analyze the morphometry of the superior articular surface of the radial head, both experimentally and statistically. Derived data are of high impact in standardization and practical application in anthropology, biotechnology and orthopedics.

Conflicts of interest

The author has none to declare.

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Morphology of the semitendinosus muscle: An anatomical study

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Introduction: To determine the length and width of the semitendinosus muscle in south Indian population and to study the vascular pedicles entering into the semitendinosus muscle.

Materials and methods: The study included 44 formalin fixed cadaveric lower limbs. The length of the semitendinosus muscle belly and its tendon were measured. The width of the semitendinosus muscle belly was measured at the origin, middle part and the termination. The length of the semitendinosus tendon was also measured. The number of vascular pedicles into the semitendinosus muscle was counted and distance of the pedicles from the origin of the muscle was measured. The measuring scale, vernier caliper and cotton thread were used to perform the measurements. The data was tabulated and analyzed.

Results: The mean length of the semitendinosus muscle was 330.8 ± 39.4 mm and its tendon measured 158.9 ± 32.8 mm. The mean width of the muscle was 26.1 ± 6.5 mm, 23.1 ± 8 mm and 9.4 ± 3.3 mm at its origin, middle part and the termination respectively. The number of vascular pedicles entering the semitendinosus muscle ranged between 0 and 7. The distance of the