

**Conflicts of interest**

The authors have none to declare.

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**Morphological variations in the shape of the mandibular coronoid process and its clinical implications**

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**Aims and objectives:** To observe incidence of various shapes of the coronoid process of mandible and its correlation with age and sex.

**Material and methods:** The morphological observation of shapes of coronoid process of both sides was carried out on total 99 mandible collected from M.P. Shah Government Medical College, Jamnagar, Gujarat. The incidence was observed in both the sex and in different age groups.

**Results:** The shape of the coronoid processes was classified into hook, triangular and round. The incidence of hook shape was 30.81%, triangular shape 43.94% and round shape 25.25%. The incidence of triangular shape was highest in both sexes. The incidence of hook shape was higher in males (33.86%) than in females (25%) whereas the incidence of round shaped coronoid process was more in females (32.35%) than in males (21.54%). The incidence of round shape (66.67%) was higher in young age while triangular shape (48.57%) was more in adult and hook shape (40.74%) was more in old age. The results were compared with those of earlier workers.

**Conclusion:** The triangular coronoid process was most common present in both males and females. As age advances the shape of the coronoid process gradually changes from round to triangular, and/or to hook shape. The present study will be helpful for maxillo-facial surgeons, and also in anthropological and forensic studies.

**Conflicts of interest**

The authors have none to declare.

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**Anatomical study of variations in the branching pattern of aortic arch**

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**Aims and objectives:** The aim of the present work is to study the branching pattern of arch of aorta, which will provide an anatomical basis for surgeons in performing safe vascular surgery involving the arch of aorta. Knowledge of these variations in branching pattern of arch of aorta is highly vital for vascular surgeons.

**Material and methods:** The present work consists of 50 aortic arches (45 male and 5 female) carefully dissected from embalmed human cadavers available in the department of anatomy, NRI Medical College, Chinakakani and nearby medical colleges from 2012 to 2015.

**Results:** In the present study, the most common branching pattern is three major branches, the brachiocephalic trunk, left common carotid artery and left subclavian artery arising inde-

pendently from the arch of aorta. It is observed in 43 (86%) out of 50 specimens. Other variations in the branching pattern were observed in 7 (14%) out of 50 specimens. The clinical significance and embryological basis of these variations are discussed.

**Conclusion:** Keeping abreast with the latest tendencies of the variations of the aortic arch is utmost essential for clinicians and CT surgeons, as the prior identification of these vascular anomalies through diagnostic interventions is crucial, in order to avoid complications during heart and vascular surgeries.

**Conflicts of interest**

The authors have none to declare.

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**Anatomical basis of femoral component sizing of total knee arthroplasty**

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**Aims and objectives:** Quantitative knowledge of distal femur articular surface geometry is critical to understand the relationship between anatomy and function of knee joint. It is also the foundation for total knee arthroplasty. There are metric differences in skeletal components among various populations. Most implants were designed and manufactured for the western population. The use of such implants in India may not be appropriate.

**Material and methods:** The present study was conducted on 202 adult human femora. Femoral notch width, medial lateral width and anterior posterior length was measured. Mean and SD of these values were calculated and compared with those reported in western literature.

**Results:** Values in present study are smaller than those in western counterparts. The mean antero-posterior length in the present study was 56.47 mm. The mean medial lateral width in the present study was 69.73 mm, which was smaller ( $p < 0.05$ ) than earlier reported in western population.

**Conclusion:** Regional variation exists in the morphological parameters of distal femur. The data of present study was compared with design and size of knee implant available and commonly used in India. This information will be helpful in designing of implants for Indian population.

**Conflicts of interest**

The author has none to declare.

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**Morphological study of ponticulus on posterior arch of atlas vertebrae**

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**Aims and objectives:** The aim of the study was to determine incidence of impression of vertebral artery, posterior ponticulus and lateral ponticulus on posterior arch of the atlas vertebrae.