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Unusual narrowing in basal turn of cochlea and cochlear implantation



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Aims and objectives: The purpose of this investigation was to evaluate the diameter of basal turn of cochlea and their importance in cochlear implantation.

Material and methods: Sixty non-pathologic formalin preserved human cadaveric temporal bones were micro-dissected to expose the medial wall of the middle ear. After exposure of cochlea, the internal diameter of basal turn was measured on 13 sites at every 30° interval.

Results: The average internal diameter of basal turn at 0° was 1.99 ± 0.35 mm which gradually narrowed down to 1.18 ± 0.22 mm at 360°. The unusual narrowing was observed in three cases at different segments.

Conclusion: The unusual narrowing in basal turn of cochlea found in some cases, may explain the difficulties experienced by surgeons to reach full insertion in such cases. The preoperative knowledge may help in selection of implant and preoperative planning about the approach for electrode insertion.

Conflicts of interest

The authors have none to declare.

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Study of cephalic index and shape of head in major castes of medical students of Rajasthan



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Aims and objectives: Cephalic index is very useful anthropologically to find out racial and sexual differences and it is affected by geographical, gender, age and racial factors. There is lesser amount of published literature about cephalic index and head shape of medical students of Rajasthan. Hence this study was done to document the cephalic index and head shape of both gender in medical students of major communities (Brahmin, Baniya, Jat and Meena) in Rajasthan and comparison of cephalic index and head shape was done. To document the cephalometric characteristics cephalic index, shape of head in male and female medical students of major communities of Rajasthan.

Material and methods: Head length and head breadth and CI were measured in 300 medical students at Govt. Medical College Kota Rajasthan. The cephalic index was measured as the ratio of the maximum breadth of head to its maximum length. Determined on the basis of international anatomical description of cephalic index (CI): head shape according to the range of cephalic index (CI) (%), i.e. dolicocephalic (<74.9%), mesocephalic (75–79.9%), brachycephalic (80–84.9%).

Results: Out of all the communities studied the mean cephalic index is highest among Meena (77.83) and lowest among Brahmin (76.95). In Baniya, Brahmin, Jat & Meena, the majority of belong to mesocephalic head shape. Baniya population has male (57.5%) and female (63.33%), in Brahmin has male (55%) and female (73.33%), in Jat has male (52.5%) and female (46.67) and in Meena has male (60%) and female (50%) were mesocephalic.

Conclusion: This study showed that both mean head length and mean head breadth is higher in male than female which shows sexual dimorphism. But the mean cephalic index of female is significantly higher than those of male ($p = 0.001$). The mean cephalic index of this study was 77.48 which say that the dominant head shape among Rajasthanis is mesocephaly.

Conflicts of interest

The authors have none to declare.

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Spatial relationship of phrenic nerves with coronary venous system and pulmonary veins



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Aims and objectives: Pulmonary vein (PV) isolation with catheter ablation in treating atrial fibrillation carries the risk of injury to phrenic nerve (PN). Left PN (LPN) stimulation continues to be one of the common complications of transvenous left ventricular lead placement during cardiac resynchronization therapy (CRT). Present study was conducted to study the spatial relationship of PNs with cardiac structures.

Material and methods: In 30 formalin-fixed cadavers, spatial relationship of PNs with PV ostia, left atrial appendage (LAA), and cardiac veins was observed. Segmental location of LPN and cardiac vein crossover was also noted.

Results: Right and left PNs coursed abutting the ostium of right superior and left superior PVs in five (16.6%) and one (3.33%) cases, respectively. LPN coursed along the lateral surface of LAA in 20 (66.66%) cases and behind LAA in one (3.33%) case. Out of 18 (60%) cases having two cardiac veins draining free wall of left ventricle (LV) and suitable for CRT lead placement, both cardiac veins were crossed by LPN in two (6.66%) cases. LPN-cardiac vein crossover was located in midlateral segment in 10 (33.3%) cases; mid posterolateral segment in five (16.7%) cases; apical lateral segment and apical posterolateral segment in three (10%) cases each.

Conclusion: PN is highly susceptible to either injury during catheter ablation or stimulation with LV pacing in certain critical locations. Detailed knowledge of spatial relationship of PNs with cardiac structures could help minimize inadvertent complications during these transcatheter electrophysiological procedures.

Conflicts of interest

The authors have none to declare.

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