

in control group ( $p=0.01$ )). Other parameters were tabulated and statistically analyzed.

### Conflicts of interest

The authors have none to declare.

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### A study of morphometric variations of celiac trunk using computed tomographic angiography



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**Aims and objectives:** To evaluate the normal anatomy of celiac trunk and prevalence of anatomical variations of celiac trunk in the South Gujarat population.

**Material and methods:** A total of 50 subjects, between 3 and 70 years of age and both sex, who underwent CT angiography of abdominal aorta for medical or surgical indications were selected for the study. Subjects allergic to contrast medium or having history of malignancy or previous abdominal surgery or aortoarteritis were excluded from the study. The angiography images were obtained using spiral CT scanner from department of radio-diagnosis of Surat Municipal Institute of Medical Education and Research (SMIMER) and reformatted as 3D images to evaluate celiac arterial anatomy and its variations with respect to level of origin, length, diameter and branching pattern.

**Results:** Variation in the vertebral level of origin of celiac trunk was observed in about 60% cases. The length and dimensions of the trunk also displayed a wide range of variation. Variant branching patterns are found in 32% of subjects with bifurcation of celiac trunk into splenic and common hepatic arteries and left gastric arises from some different sources.

**Conclusion:** The knowledge of morphometric variations of celiac trunk is indispensable for diagnostic and operative procedures of abdomen. Without a thorough understanding of the arterial architecture and the knowledge of variations, surgery may carry a considerable risk leading to lethal complications. A high celiac trunk may lead to its compression. Variation in branching pattern is considerably important in hepatobiliary surgery and chemo-embolization for malignancy.

### Conflicts of interest

The authors have none to declare.

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### Morphometry of lumbar pedicle using CT scans and digital images



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**Aims and objectives:** The lumbar pedicle has garnered a lot of attention in the last decade due to its surgical utility during

screw placement to achieve safe and strong posterior stabilization therefore the present study aimed to measure the surgically relevant dimensions of the lumbar pedicle in normal Indian subjects, to define baseline safety parameters for posterior pedicle screw fixation.

**Material and methods:** CT Scans of the lumbar spine of 25 adult Indian patients free from spinal disorders were obtained from department of Radio-diagnosis and 60 macerated lumbar vertebrae of adult Indian subjects with no visible deformities were obtained from the Department of Anatomy, AIIMS, New Delhi following institutional ethical clearance. Morphometric measurements were taken for each lumbar vertebra on the CT scans of lumbar spine (using computer software) as well as on the Image analyzer (using ImageJ software) for digital photo-graphs of individual lumbar vertebrae.

**Results:** The statistically significant difference was observed only in 2 parameters (SA – Sagittal Angle of Pedicle,  $D_{MA}$  – Depth to anterior cortex along midline axis) on both left and right pedicle of typical lumbar vertebra and 4 parameters on left (TA – Transverse Angle, SA – Sagittal Angle,  $D_{PA}$  – Depth to anterior cortex along Pedicle axis,  $D_{MA}$ ) and five parameters on right (PW – Pedicle Isthmus Width, PH – Pedicle Isthmus Height, TA, SA,  $D_{MA}$ ) pedicle of atypical lumbar vertebra when comparison was done between CT Scans and Image J software ( $p < 0.05$ ).

**Conclusion:** This baseline data may be of great value to spine surgeons while correcting various deformities using pedicle screw in this region.

### Conflicts of interest

The authors have none to declare.

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### Association between nasal septal deviation and pneumatization of mastoid air cells: A computerised tomographic study



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**Aims and objectives:** The air reservoir for the middle ear, the mastoid air cell system holds a prominent place in the pneumatization systems of the skull. The nasal septum helps to regulate the amount of air passing through the nasal cavities. Nasal septal deviation (NSD) has been claimed to jeopardize the nasal aerodynamics and diminish the amount of nasal airflow at the convex side thereby altering the pressure of the pneumatization system of the skull. The objective of this study was to find the association between the degree of NSD and pneumatization of mastoid air cells.

**Material and methods:** The CT images from 120 subjects of both sexes were studied retrospectively. The images of subjects who presented with NSD were included for this study. Other gross pathologies that distorted the visualisation of the PNS region like tumor and trauma were excluded from this study. The direction and degree of NSD were noted. The NSD was graded into three grades according to Elahi et al.'s grading system. The pneumatization of mastoid air cells was noted.

**Results:** The Grade I, II, III NSD were seen in 20, 45, 55 subjects respectively. Grade III was more frequently seen in this study. The mastoid air system was found to be smaller in the deviated side of septum compared to the contralateral side.

**Conclusion:** The knowledge about this association between NSD and mastoid pneumatization in adult population is of great importance to Otolaryngologist to consider NSD correction before treating middle ear problems surgically.

#### Conflicts of interest

The authors have none to declare.

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#### Effects of methotrexate on ovary: An experimental study on albino rats



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**Aims and objectives:** The aim of the present study was to find out detailed histopathological changes in ovary after exposing the experimental rats to therapeutic dose of methotrexate.

**Material and methods:** Twelve female albino rats 6 experimental and 6 control received methotrexate (in former) and normal saline (in latter), 1 mg/kg, intraperitoneally for 6 weeks. H/E staining was done.

**Results:** H/E stained sections from ovary of experimental rat showed poorly developed Graffian follicles with loss of ova. There were follicular spaces in these rats with albuminous fluid and inflammatory cells. Granulosa lutein cells also showed degeneration due to inflammation. Cells were found to be smaller, shrunken and irregular with vacuolated lighter colour cytoplasm.

**Conclusion:** We concluded, therefore that the drug is safer to be used in those patients who have completed their family.

#### Conflicts of interest

The authors have none to declare.

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#### Association of high endothelial venules and intraepithelial lymphocytes in human postpartum fallopian tube: A light and TEM study



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**Aims and objectives:** The Fallopian tube (FT) is considered to be a part of mucosa associated lymphoid tissue (MALT). High endothelial venules (HEVs) are concerned with lymphocyte trafficking in secondary lymphoid tissues. The aim of the present study was to look for the association of HEVs and intraepithelial lymphocytes (IELs) in mucosa of the human postpartum Fallopian tube.

**Material and methods:** The ampullary part of the FTs obtained from ten women who underwent lower segment caesarean section with sterilization was processed for electron microscopy. HEVs per

4 mm<sup>2</sup> of mucosa and IELs per 100 mm length of the epithelium were counted for each sample in semithin sections using cellSens image analysing software under light microscope. The structure of HEVs, lymphocyte trafficking were studied under transmission electron microscope. The association of the IELs with HEVs was looked for. The data obtained was statistically analysed using SPSS version 17.0.

**Results:** The mean number of HEVs per mm<sup>2</sup> of the mucosa of human postpartum FT was 19.23 ± 7.05 and IELs per 1 mm length of epithelium was 7.71 ± 3.01. There was a significant positive correlation between the number of IELs and HEVs ( $p < 0.001$ ) and IELs regressed on HEVs with the regression coefficient of 42.002. Migration of lymphocytes through mucosal HEVs and their association with the dendritic cells was also observed under electron microscope.

**Conclusion:** The presence of IELs, HEVs and the significant correlation between them confirms that FT is a member of MALT and that HEVs are the migratory route of lymphocytes in postpartum FT.

#### Conflicts of interest

The authors have none to declare.

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#### Histological study of internal thoracic, gastroepiploic and coronary arteries as relevant in coronary artery by-pass grafts



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**Aims and objectives:** The potential relation between the structure of the media and the development of intimal hyperplasia may have an impact on the long term patency of arterial conduits used for myocardial revascularization. So the morphometric and histological analysis with emphasis on their suitability as arterial conduits were performed on the internal mammary and gastroepiploic arteries and were compared with the coronary arteries harvested from the same individual.

**Material and methods:** The vessels were harvested in 15 autopsy cases and examined using light microscopy after H&E staining. Morphometric analysis was done and histological characteristics of internal mammary and gastroepiploic arteries were studied and compared with those of coronary arteries.

**Results and conclusion:** Coronary arteries, their branches and gastroepiploic arteries are muscular arteries. Aging of muscular arteries results in intimal thickening which was observed in all the coronary arteries with mild intimal thickening in 2 of the left gastroepiploic arteries whereas in right gastro epiploic artery was normal in all the cases. Intimal thickening was observed in 2 cases of left internal thoracic artery whereas it was normal in right internal thoracic of all the cases. Internal elastic lamina showed prominent folding at multiple sites along the circumference in right and left internal thoracic arteries in all the cases.

#### Conflicts of interest

The authors have none to declare.

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