

Conflicts of interest

The authors have none to declare.

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Vitamin E isoforms (d α -tocopherol and δ -tocotrienol) promote healing of secondary skin wounds in diabetic rats



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Introduction: Oxidative stress is one of the important factors that affect the delayed wound healing in diabetes. Vitamin E is a mixture of eight compounds such as α , β , γ , δ -tocopherols and tocotrienols and is an effective antioxidant. This study was designed to explore the combined effect of d α -tocopherol and δ -tocotrienol in wound healing process in healthy and alloxan-induced diabetic rats.

Materials and methods: Twenty-four albino rats were divided into four groups; healthy control, diabetic control, healthy treated and diabetic treated. Treated groups received d α -tocopherol (100 mg/kg body weight) and high δ -tocotrienol (90% δ and 10% γ -tocotrienols, 100 mg/kg body weight) orally daily for 3 weeks. Under general anesthesia, full-thickness excisional skin wounds were created on the dorsal surface of thoracic region. Progression of wound healing was assessed by macroscopic and microscopic features of wounds recorded at weekly intervals. Serum biochemical parameters were also estimated for each animal at the end of 3 weeks.

Results: It was observed that reepithelialization, matrix remodeling and reappearance of epidermal appendages were earlier in treated groups as compared to control groups and this was also associated with significantly increased serum antioxidant status and total protein content.

Conclusion: Oral co-administration of d α -tocopherol and high δ -tocotrienol promotes skin wound healing in both healthy and alloxan-induced diabetic rats through its antioxidant potency, it is therefore suggested that vitamin E isoforms hold promising future in the effective management of wounds in diabetics.

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A morphometric study of human subcarinal angle in different age groups in both sexes and its clinical implications



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Introduction: The subcarinal angle is the angle between the right and left main bronchus. Increase in the subcarinal angle is mentioned as an indirect sign of pathology in the heart or mediastinum such as left atrial enlargement, generalized cardiomegaly, lobar collapse, subcarinal mass or pericardial effusion.

Method: A morphometric study of human subcarinal angle was undertaken in the Department of Anatomy, Narayan Medical Col-

lege and Hospital, Jamuhar, Sasaram, Rohtas, Bihar, India, on 60 specimens (34 male and 26 female) procured from relatively fresh disease free cadavers from Rohtas Police Morgue. Subcarinal angle was measured with a diagonal scale on the photograph of the specimen by tracing the medial borders of the right and left principal bronchi with the marker pen. The standard error (SE), standard deviation (SD) and test of significance were calculated using independent sample 't' test and multiple comparison tests.

Observation: The present investigation revealed a wide variation in the subcarinal angle, in a same age group as well as in different age groups in both sexes. The mean subcarinal angle in male was 59.1° and 53.1° in females.

Conclusion: The study of these subcarinal angle variations is of profound clinical importance as it may help the clinicians to understand the etiology of several pulmonary and cardiac diseases and the surgeons to deal with resection and reconstruction of the tracheobronchial tree. This knowledge is also helpful for smooth conduction of some maneuvers like endotracheal intubation and bronchoscopic procedures.

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Branching pattern of superior mesenteric artery and its clinical importance – Anatomical study



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Introduction: Knowledge of normal anatomy of superior mesenteric artery (SMA) and its variations is essential for a successful resection anastomosis and in treatment of ischemic disorder of colon. In stenotic or occlusive disease of SMA or its colic branches, the presence of collateral channels is critical for maintaining the integrity of vascular supply to the affected region.

Materials and methods: The present study was conducted on 30 formalin fixed adult human cadavers. We observed the vertebral level of origin, branching pattern of colic branches of SMA and their variations. The status of anastomosis in the formation of marginal artery in relation to SMA was also been noted.

Observations: In the present study, SMA arose from the ventral aspect of the abdominal aorta, the vertebral level of origin was ranging from upper border of 1st to lower border of 2nd lumbar vertebra. SMA followed the usual branching pattern in 46% cases and in 54% cases, showed variations. These variations were classified into 3 groups and further sub groups. The part of marginal artery up to the right two-third of transverse colon was found complete in all cases and established collateral circulation between colic branches of SMA.

Conclusion: The awareness of variant anatomy of SMA can result in more accurate interpretation of disease and vascular involvement in diagnostic imaging. It also helps in optimal selection of treatment options and operative planning to minimize iatrogenic injuries from both surgical and interventional radiological procedures.

Conflicts of interest

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