

**Conclusion:** Bronchial artery of anomalous origin must be suspected in patients in whom the source of haemorrhage is not evident and have persistent haemoptysis post embolization.

#### Conflicts of interest

The authors have none to declare.

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#### An analysis of magnetic resonance venographic drainage patterns of intracranial venous sinuses



T.S. Gugapriya

Chennai Medical College Hospital and Research Centre, Trichy, India

**Introduction:** Magnetic resonance venography (MRV) has become a preferred method of investigation of intracranial venous sinuses when compared to invasive computerized tomography and magnetic resonance angiographic methods. In dural sinus thrombosis, this MRV has established superior diagnostic level in identifying the lesion. With this increasing prominence of MRV in diagnostics, this study of was done with the objective of finding out the normal anatomical patterns of intracranial venous sinuses and its variants in adult population.

**Methods:** From the archives of radiology department, 50 patients who underwent MRV for some diagnostic reasons were studied. The patients with intracranial neoplasms, confirmed congenital anomalies, traumatic injury, previous craniotomy and intracranial abnormality were excluded from this study. The paired and unpaired venous sinuses were visualization. The pattern of drainage was observed and variants in it were descriptively analysed.

**Results:** In all the cases studied superior sagittal sinus was visualized compared to less number of inferior sinus. The transverse sinus was found to be dominant on right side in majority of the cases studied with hypoplastic left side sinus and flow gaps in its course. Variation in confluence of sinus was noted in many cases.

**Conclusion:** Knowledge of normal intracranial venous sinus pattern and possible variants help the radiologist to eliminate diagnostic pitfalls while reporting. Also, this baseline data aids us in understanding various developmental anomalies and its correlation with malformation of the brain.

#### Conflicts of interest

The author has none to declare.

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#### Radiological study of secondary ossification centers around the elbow joint in central zone of India



Chhaya Rani

Netaji Subhash Chandra Bose Medical College, Jabalpur, MP, India

**Introduction/background:** The bones of human skeletons develop from separate ossification centers. From these centers ossification progresses till the bone is completely formed. These changes can be studied by means of X-rays. It is therefore possible

to determine the approximate age of an individual by radiological examination of bones till ossification is complete.

**Materials and methods:** This radiological study was carried out with the objective to assess the skeletal maturity round elbow joint, of subjects in Madhya Pradesh region, 168 males and 132 females between age group of 10 and 19 years and size of dwelling in Madhya Pradesh more than 10 years. Subjects representing the heterogeneous population of Madhya Pradesh were included from first year MBBS students of N.S.C.B. Medical College, Jabalpur of different districts of this state, schools as well as patients attending outpatients Department of Radiology, N.S.C.B. Medical College, Jabalpur. Anteroposterior and lateral view of right elbow joint was taken, appearance and fusion of ossification centers around this joint studied. Data was tabulated and statistically analysed by using STATA 12.0 TX, USA.

**Observation and results:** From the analysis, it is found that in males at the age of 16 years, ossification centers around the elbow joint is fused except medial epicondyle and in females, it is completely fused.

**Discussion and conclusion:** From this radiological study, when findings are compared with the other authors from different states of India and in addition with other nations and observed to fluctuate substantially.

#### Conflicts of interest

The author has none to declare.

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#### Anatomical variation and clinical implications of celiac trunk and superior mesenteric arteries: CT angiography based study



Bali Sharma\*, Dhiraj Saxena, Vasanta Leela, S.K. Agarwal

S.M.S. Medical College, Rajasthan University of Health Sciences, Jaipur, India

**Introduction:** Anatomical variations in the celiac, and superior mesenteric arterial branching patterns have a great clinical significance. The presence of certain variant patterns can be advantageous, while some can lead to life threatening complications. Many a times they are present throughout life and fortunately pass undetected. Yet their presence and incidence can be helpful for surgeons and radiologists to be aware of such variant patterns.

**Objective:** The aim of this study was to detect and describe the existence and incidence of anatomical variations of the celiac trunk and superior mesenteric artery by Using imaging technique.

**Materials and methods:** 80 patients visited the Radiology Department of S.M.S. Medical College, Jaipur. To cover the whole abdominal aorta in each patient, spiral CT angiography scan was done and thin slices (0.6mm) axial images were obtained. Both sagittal and coronal images were reconstructed.

**Results:** We found that 77.5% of patients presented a classic anatomy of the celiac trunk and superior mesenteric artery, using this imaging technique, we found the existence of variations of these abdominal blood vessels in 22.5% of patients.

**Conclusion:** The arterial variations should not be ignored and with an accurate knowledge on the anatomical variations, many operative and post operative complications can be avoided. The knowledge on the CT variations would enable the radiologists in protecting the important vessels prior to transcatheter therapies, and also in preventing inadvertent injuries.