

**Conflicts of interest**

The authors have none to declare.

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77

**Normal anatomy and variations of sino-atrial nodal artery in north Indian population: A study by 64 slice computed tomographic coronary angiography**



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**Aims and objectives:** This prospective study was done to evaluate the anatomic characteristics and the variations of the sino-atrial nodal artery (SANA) in the north Indian population using an electrocardiographic (ECG)-gated multi-detector CT (MDCT).

**Material and methods:** The ECG-gated MDCT coronary angiograms of 50 subjects [32 males (14–75 years) and 18 females (12–70 years); mean age  $51.36 \pm 14.07$  years, age range 12–75 years] were analyzed prospectively. Each angiogram was visualized to see the origin of SANA and to determine its number. The correlation of origin of SANA with coronary dominance was also determined.

**Results:** A total of 50 coronary angiograms were analyzed. Single sino-atrial nodal artery was seen in 45 (90%) cases and two sino-atrial nodal arteries were seen in 2 (4%) cases. In 3 (6%) cases, SANA was not visualized. Out of 45 subjects having single SANA, 36 (72%) subjects had origin of SANA from the right coronary artery (RCA), in 2 (4%) cases, the SANA was seen arising from anterior aortic sinus (AAS) and in 7 (14%) cases the SANA arose from left circumflex (LCX) artery. In one case of SANA arising from AAS, it was anomalous and aneurysmally dilated, forming a fistulous tract communicating with the right atrial cavity. In subjects having two sino-atrial nodal arteries, one arose from RCA and second from LCX artery. SANA was a branch of the dominant artery in 70% cases.

**Conclusion:** The frequency of origin of SANA from RCA is consistent with the reports of most of the studies done for the origin of SANA. The frequency of origin of SANA from anterior aortic sinus is greater than that is reported in previous studies conducted on populations of other ethnicity than Indians. This finding can make us to consider it as characteristic of north Indian population. This study can provide basic data on normal anatomy and variations of SANA in the North Indian population.

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78

**Study of prevalence of metopic sutures attending department of radiology in Assam Medical College**



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**Aims and objectives:** Metopic suture is formed due to failure of union of the two halves of the frontal bone. Usually the suture disappears by early childhood, but in some cases it persists as complete or incomplete metopic suture. The objective of this study is to describe the prevalence of metopic suture in all the cases coming to the Department of Radiology, Assam Medical College.

**Material and methods:** The present study is carried out using plain X-rays of skulls collected from the Dept. of Radiology, Assam Medical College & Hospital, Dibrugarh, Assam. Total no of X-rays studied in 110 cases.

**Results:** In our study, total no. of metopic suture was detected in 17 out of 110 cases (15.45%). Total no. of incomplete metopic sutures was present in 14 cases and no. of complete metopic sutures present in 3 cases.

**Conclusion:** Metopic suture can be misdiagnosed as a vertical fracture of the frontal bone in patients with head injury. In our study, metopic suture was detected in 15.45% cases. The data obtained from our study will be compared with previous literatures and will be discussed during conference.

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79

**Ultrasonographic measurement of liver in Manipuri adult population**



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**Aims and objectives:** Variations in the sizes of the liver among different ethnic groups are an established fact. There was no comprehensive anthropometric study on normal measurement of liver by ultrasonography in adults of Manipuri population. Therefore, this study was conducted in the Department of Anatomy, RIMS, Imphal to assess the ultrasonographic measurement of liver in Manipuri adult population.

**Material and methods:** This cross-sectional study was conducted among 108 individuals; age ranged from 15 to 85 years, after taking formal permission from the Institutional Ethics Committee, RIMS and consent from the concerned individual. Medison SONOACE X8 with 3.5 MHz sector curvilinear transducer probe was used to measure the longitudinal and anteroposterior dimensions of liver in right midclavicular line.

**Results:** In the present study, 45.37% were males and 54.63% were females. The mean right midclavicular longitudinal and anteroposterior diameters of liver were  $12.63 \pm 1.26$  cm and  $8.76 \pm 1.39$  cm respectively. The longitudinal diameter in males and females ranged from 10.48–16.62 cm with mean

value  $12.59 \pm 1.33$  cm and  $10.33$ – $15.91$  cm with mean value  $12.67 \pm 1.21$  cm respectively. The mean anteroposterior diameter in males and females were  $8.94 \pm 1.29$  cm and  $8.65 \pm 1.46$  cm respectively. Both the longitudinal and anteroposterior diameters of liver were increased as body weight and Body Mass Index (BMI) increased in both males and females.

**Conclusion:** As increase or decrease in liver size is an important index for some liver as well as systemic diseases. So, this study will identify the normal reference values for the Manipuri adult population in future.

#### Conflicts of interest

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80

#### Anatomical variations in intrahepatic portal vein ramification: A 64 slice CT study

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**Aims and objectives:** The variations in the intrahepatic branching pattern of Portal vein are mandatory factor while dealing with subsegmental hepatectomy and segmental liver resection. In liver transplantation the donor's safety is a primary concern and therefore the knowledge of intrahepatic vascular segmentation is necessary. The present study is based on intrahepatic portal vein branching to describe liver segmentation by using 64 slice CT portography.

**Material and methods:** In the present study 20 patients were screened for vascular segmentation of liver, based on intrahepatic branching pattern of the portal vein by using 64-slice CT portography. CT liver portography was carried out with GE (General Electric) light speed VCT 64 slice MDCT machine and 4.4 version advantage workstation. 64 slice portography was performed by injecting 40–60 ml of iodinated contrast material (Omnipaque 350).

**Results:** In this study normal intrahepatic branching pattern of portal (Bifurcation) was observed in 60% (12) cases, whereas the abnormal pattern i.e. trifurcation in 20% (4) cases, right posterior branch first branch of portal vein in 10% (2) cases, absence of bifurcation in 5% (1) case and absence of right posterior branch in 5% (1) case has been observed. Accessory branches were also present in both right and left lobe that had been observed by using 64 slice CT scan. The finding will be discussed on the scientific platform.

**Conclusion:** The knowledge of intrahepatic branching pattern of portal vein are essential to ensure the positive surgical result in various surgical procedure.

#### Conflicts of interest

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81

#### Plastination of brain specimens by Orthocryl: A viable alternative?

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**Aims and objectives:** Tissue preservation is an important aspect in teaching Anatomy. Most of the organs and tissues are preserved in formalin with its own set of disadvantages. Plastination is a unique method of permanently preserving tissue in a life like state.

The classical way of Plastination developed by western authorities is a labour and equipment intensive affair. The expensive polymers and equipments are required to be imported at a higher cost. However certain studies on newer polymers have showed inexpensive ways to preserve anatomical tissues. The quality of these specimens matches those produced by the classical method.

**Material and methods:** PMMA based polymer called Orthocryl was used to plastinate the brain specimens. The specimens were made to undergo stages of dehydration, impregnation with polymers and curing. The results were studied and interpreted under various parameters.

**Results:** The results were interpreted under various parameters like shrinkage, retention of colour, odour, pliability and retention of gross anatomy. The study concluded that Orthocryl retained colour with minimal shrinkage. The gross Anatomy was maintained.

**Conclusion:** The study concluded that indigenous methods and materials can produce quality plastinates which can be an important adjunct to traditional methods of teaching.

#### Conflicts of interest

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82

#### Morphometric study of proximal femur in post-menopausal women: A radiological study

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**Aims and objectives:** The structure and geometry of femur play an important role in causing hip fracture. The aim of this study was to find out the correlation between proximal femoral geometry with fracture and non fracture cases in post-menopausal women.

**Material and methods:** Total 191 post-menopausal women over 50 years of age were included in the study out of which 27 were fracture cases (with femur fracture) and 163 were in control group (with no fracture). Age, height, weight were recorded for all cases of the study. The antero-posterior views of pelvic radiographs were taken. The radiographic measurements were performed in all cases, including the hip axis length (HAL), femoral neck shaft angle (FNSA), femoral neck axis length (FAL), femoral shaft width (FSW), acetabular width (AW) and femoral head width (FHW).

**Results and conclusion:** Hip axis length was significantly longer in fractured patients [mean value was  $134.3 \pm 5.7$  mm in fractured group and  $130.4 \pm 6.2$  mm in control group]. The femoral neck shaft angle was also significantly higher in fracture cases than in control group [mean value  $132.8^\circ \pm 5.5$  in fractured group and  $128.9^\circ \pm 5.9$

