

methods and ways of teaching may simplify this subject and may be interactive for the students.

Material and methods: Comparison of various studies regarding modern teaching and assessment method for medical students.

Results and conclusion: There should be look onto ways like small groups, competitive tests, integral teaching.

Conflicts of interest

The author has none to declare.

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A questionnaire-based pedagogic evaluation of anatomy-teaching in first year MBBS students



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Aims and objectives: Anatomy, taught in the first year of MBBS course, has been classically considered as the basic foundation for learning medicine and has a decisive role in medical education as well as at the professional front in later years. But just like other scientific disciplines, it has also grown simultaneously with technology and communication sciences. And the role of faculty members in this modern concept of Medical Education is to facilitate the learning process—making use of multiple techniques – to cater to the needs of different types of learners.

Keeping this in view, a Questionnaire-based evaluation of 300 students (belonging to MBBS–first professional) was conducted at Government Medical College, Kannauj, to assess the effectiveness of various methods employed in teaching Anatomy to the undergraduates as well as to know students' opinions regarding the assessment examinations, routinely used.

Material and methods: For this purpose, a specially-designed anonymous questionnaire, comprising of 21 objective questions, was given to all the participants, at the end of the term. Their answers were assessed and compiled.

Results and conclusion: It was found that best method for understanding a given topic, according to students, was cadaveric dissection (54%). Present one-year duration to cover the Anatomy syllabus was found insufficient by 75% of students. Dissection–hall teaching was the most preferred mode of learning by students (45%). Students preferred written exams (36%) over oral/viva exams (25%) and 40% students believed that only Part-completion tests should be held, no midterms and final exams.

Conflicts of interest

The authors have none to declare.

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Emotional impact of dissection hall on medical students



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Aims and objectives: Dissection of the dead human body has been central to medical education since renaissance. First year medical students normally experience a variety of emotional

reactions and mixed feelings, when they encounter human cadavers for the first time.

In order to assess the impact of anxiety and physical symptoms from the experience of dissection room, a questionnaire was prepared which provide an insight into the difference in attitudes and dissection hall experience of the male and female medical students.

Material and methods: Total 178 students were given same questionnaires 1 week and 3 months after initial exposure to the dissection hall. The students were asked to answer in either 'Yes' or 'No' option.

Results: All the physical symptoms experienced by both male and female students in dissection hall were found to be decreased over a period of 3 months except lack of concentration.

Conclusion: A better teacher-student interaction, pre-education sessions will help in improving the attitudes of students towards cadaveric dissection, which will in turn offer a stable mental status for medics to handle higher levels of stress in their clinical career, thereby reducing the drop-out rates.

Conflicts of interest

The authors have none to declare.

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Plastination of human lungs using silicon polymer (S-10)



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Aims and objectives: Well preserved gross specimens become an integral part for understanding their three dimensional anatomy, thereby providing clarity to spatial correlations to aspiring medical graduates, physicians and surgeons. The commonly used fixative i.e. formalin has certain limitations which can be overcome by plastination as these specimens are dry, odourless and permanent. Plastination of hollow organs and organs with air spaces faces many challenges like shrinkage. So the present study was aimed to plastinate lungs using an improvised method of standard silicone S-10 technique.

Material and methods: Twenty one autopsied lungs were collected from department of Forensic Medicine, AIIMS, New Delhi preserved in 5% formalin for two weeks and then plastinated (group I) whereas 15 embalmed lung specimens were taken from department of Anatomy, AIIMS, New Delhi which were stored in 15–20% formalin for 3–6 years and then plastinated (group II). The lungs in both the groups were subjected to standard as well as modified protocol of plastination where xylene was added during impregnation step.

Results: In both groups, statistically significant ($p < 0.05$) difference was observed in mean % shrinkage of surface area and volume between lungs impregnated with xylene–polymer mixture and those impregnated with polymer alone. Group I had superior colour preservation and flexibility than those of group II.

Conclusion: The addition of xylene in polymer during forced impregnation reduced the shrinkage in both the groups. The aesthetic qualities were superior when lungs were fixed in 5% formalin and xylene was added to the polymer mixture.

Conflicts of interest

The authors have none to declare.

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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 ± 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.

Conflicts of interest

The authors have none to declare.

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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.

Conflicts of interest

The authors have none to declare.

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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 ± 1.26 cm and 8.76 ± 1.39 cm respectively. The longitudinal diameter in males and females ranged from 10.48–16.62 cm with mean