MEDICAL STUDENTS' ANATOMY KNOWLEDGE RETENTION THROUGH THE SITUATIVE LEARNING AND TEACHING IN PRACTICE

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Key words: *learning anatomy through practice, situative learning, transferable skills, students understanding, medical education*

Classroom learning differs from activities involved in situative learning embedded within activity, and background. Situative practice theory posits that learning is unintentional and situated within authentic activity, context, and culture. It allows students to interact and communicate in professional manner and develop their professional practice. They have to utilise a lot of transferable skills as communication, presentation, proving their integrity, ability for team work, and using group work too. Teaching anatomy to medical students and medicine allied programmes through practical courses and seminars as dissection, tutorials with models and prosections, situative learning is valuable and highly rated by the students in medical education as a tool for better understanding and knowledge retention. There is applied deep unintentional aim to develop spatial awareness and relation in complexity. The benefits and difficulties depend on facilities background, lecturers' availability and students' interest. Using qualitative questionnaire students appreciated practical impact in medical education and they reported as very beneficial to understanding the topic and subject itself, students engagement, social interaction and team work. Other interesting ideas were discuss through the open questions with stimulating suggestions to improve learning and teaching anatomy. This study gives an insight in feedback from both, the students and lecturers perspectives. It highlight different acquired skills applied through situative learning to aid and endorse professional development and students' ability to interact in authentic context. It brings discussion on possible impact on students' interest on topic, sharing knowledge through peer teaching and specialist communication and presentation.

STRENGTH PROPERTIES OF THE INGUINAL LIGAMENT AND APONEUROSIS OF THE EXTERNAL OBLIQUE ABDOMINAL MUSCLE IN MODELING OF THEIR DAMAGE

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Key words: *inguinal ligament, damage, abdominal muscle*

Aim. Is the study of the dynamics of physico-mechanical properties of the inguinal ligament and aponeurosis of the external oblique abdominal muscle, depending on the nature of the lesion.

Material and Methods. The study was carried out on the basis of the Bureau of Forensic Medical Examination, Kursk, on 100 corpses of men, the average age of which was 72.5±0.5 years, who died from diseases not associated with pathology of the abdominal organs. Six series of experiments were conducted. The body type was determined by the index according to Lavrova T. F., the parameters of the inguinal canal before and after injury of the inguinal ligament. The mechanical damage to the inguinal ligament and aponeurosis of the external oblique abdominal muscle was simulated the crossing by 50% and perforation with a surgical needle (developed by the device).The control group consisted of undamaged samples. The data obtained were processed statistically on a computer.

Results and Discussion. It is established that the inguinal ligament damage in the transverse plane at 50% reduces the strength limit by 11.4%, the perforation of the inguinal ligament with needles reliably reduces its strength limit by 41.2% and increases its plastic deformation by 74.5%. The same dependence was observed in the study of the aponeurosis of the external oblique abdominal muscle.

Conclusions. Perforation of the inguinal ligament with surgical needles significantly reduces its strength properties in 1.7 (p=0.05) times, whereas the crossing by 50% reduces them only in 1.1 (p=0.05) times, which can be explained by the difference in areadamage.

EXPERIMENTAL STUDY OF THE HEMOSTATIC AND ANTI-ADHESIVE PROPERTIES OF MESOGEL IN THE CONDITIONS OF BLOOD AND BILE LEAKAGE IN LIVER INJURIES

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Key words: *mesogel, hemostatic activity, liver injuries, blood, bile*

Aim. Is to study in the experiment the hemostatic and anti-adhesive properties of Mesogel in conditions of blood and bile flow.

Material and Methods. In vitro in two series of experiments in 55 studies, using the method of spectral analysis, the character of the change in the chemical properties of Mesogel in interaction with native blood and bile was studied. Under conditions of acute and chronic in vivo experiments, the time of bleeding stop and the amount of blood loss in a standard liver injury was studied in 90 rats,

in control group and group using Mesogel. The anti-adhesive properties of the gel were studied on days 3, 7 and 14, by evaluating the adhesive process in the abdominal cavity using the method of the semantic differential. The results obtained were processed statistically.

Results and Discussion. It is definitely revealed that Mesogel did not enter into chemical interaction with blood and bile. Preparation shortened the time of bleeding stop relative to the control at 109.19±34 seconds (by 37%; p≤0.05); reduced blood loss by 67±14 mg (by 15%, p≤0.05). In the chronic experiment the preservation of the anti-adhesive activity of the gel was confirmed: the absence of adhesive process on days 3, 7 and 14, the presence of only single viscero-parietal planar adhesions on day 14 in 12% of cases.

Conclusions. In vitro studies have shown that when Mesogel is in contact with blood and bile, there is no chemical interaction and a change in its physical structure. In vivo studies have shown that Mesogel reliably has hemostatic and anti-adhesive activity. Mesogel can be used in the clinic for operations on the liver, as a combined action preparation.

A MORPHOMETRIC STUDY OF INFRAORBITAL FORAMEN IN ADULT HUMAN SKULLS

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Key words: *infraorbital foramen, infraorbital margin, size, distance, measurements*

Aim. The aim of this study was to determine the location of the infraorbital foramen (IOF) in relation to infraorbital margin (IOM), anterior nasal spine (ANS) and Nasion (Na), Supraorbital foramen (SOF) and maxillary teeth in adult skulls (of south eastren Indian population).

Material and Methods. Fourteen skulls (28 sides of skull) have been analyzed. In order to analyse the size and the relative position of the IOF with the above parameters, we have used a digital caliper for measurements with a precision of 0.01 mm.

Results and Discussion. The IOF was oval in shape (85.7%) on right side and (71.4%) on left side while none of them were found either in semilunar or triangular shape in contrast to previous reports. In most of the cases IOF was found to situate lateral to the plane of SOF. The vertical and transverse diameter of the IOF on both sides was found to be almost equal. The mean distance and standard deviation (mean±SD) between right IOF and ANS, IOM and Na were 33.6±2.22 mm, 5.49±1.10 mm and 41.4±3.27 mm respectively, while the mean±SD between left IOF and ANS, IOM and Na were 33.1±2.30, 5.85±1.06 and 40.3±3.09 mm respectively.

Conclusions. The results obtained from descriptive analysis are relevant for blocking the infraorbital nerve while performing surgeries in midface region, particularly in patients with edema of the infraorbital region in situation where precise location of the IOF is difficult.

VARIABILITY OF THE PARAMETERS OF THE LATTICED BONE OF ADULTS

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Key words: *cribriform plate, ethmoid labyrinth*

Aim. Determine the variability of the parameters of the structural formations of the ethmoid bone (EB).

Material and Methods. On the 49 skulls of adults, the length and width of the cribriform plate (CP) were craniometrically studied. At 58 KT-grams, the length and width of the ethmoid labyrinth (EL) are determined.

Results and Discussion. The length of the CP is 21.5±0.2 mm (Min—Max=14.7–26.0 mm, σ=2.7 mm, CV=12.6%), the width of the CP varies in the range of Min—Max=4.6–20.1 mm and on the average is: at the level of the anterior third of 7.2±0.1 mm (σ=2.2 mm, CV=27.6%), the middle third — 11.1±0.2 mm (σ=1.8 mm, CV=18.5%), the posterior third — 12.9±0.2 mm (σ=2.8 mm, CV=21.1%). The length and latitudinal parameters of EL do not have statistically significant bilateral differences (p>0.05). The average length of the EL is 36.0±0.3 mm (Min—Max=27.3–45.3 mm, σ=3.9 mm, CV=12.4%). The width of the EL of the anterior third is 8.2±0.2 mm (Min—Max=4.8–17.3 mm, σ=2.5 mm, CV=29.3%), posterior third — 10.0±0.2 mm (Min—Max=3.9–19.4 mm, σ=4.7 mm, CV=32.0%).

Conclusions. The prevalence of latitudinal parameters of the EB in the posterior third was established in comparison with the anterior third (EP at 79%, EL at 22%). The long-latitudinal parameters of the latticed bone have an average and strong degree of variability.