

A high percentage of unemployed patients suggests an antisocial image of their lives and alcohol abuse. Alcohol intoxication and determines the mechanism of occurrence of ruptures, the course of pathology and the development of possible complications.

THE PRE-ORGAN SEPARATION OF THE BLOOD AND ITS ROLE IN THE DEVELOPMENT OF THE FUNCTIONAL HYPEREMIA OF THE MYOCARDIUM

Markov I. I., Malykhina T. V.

Private Medical University REAVIZ, Samara, Russia
morpholetter@yandex.ru

Key words: myocardium, working hyperemia, blood separation

Background. The continued increase of the mortality from the ischemic disease of the heart indicates that it has become the most unreliable organ in human. The situation is aggravated by the fact that until now many questions about the regulation of blood-lymph circulation in the intact heart remain either controversial or unresolved. First of all, this concerns the mechanism of development of functional (working) hyperemia of the myocardium.

Aim. The purpose of this study is the morphological and functional substantiation of the concept about the significance of pre-organ blood separation in the mechanism of development of functional myocardial hyperemia.

Material and Methods. The investigation was performed on inbred seven cats and inbred five dogs in full accordance with Russian and International ethical principles. The blood and lymph channel of the heart was studied by the intravascular methods of Grant and Ranier-Goyer in the supravital conditions. The movement of the ultrafiltrate of blood plasma in the interstitial space and its resorption in the lymphatic vessels was studied by using the vitally coloring dyes (1% solution of the hematoxylin and 0.25% solution of the silver nitrate), which to allow to reveal of the local features of the vascular permeability.

Results and Discussion. The morphological and functional data obtained in this study may serve as the grounding for a new conception about the role of the pre-organ separation of the blood in the development of functional hyperemia of the myocardium.

A NEW UNIVERSAL METHOD OF IMPREGNATING — NEW RESULTS IN MORPHOLOGY

Markov I. I., Markova V. I., Babaeva R. E.

Medical University REAVIZ, Samara, Russia,
morpholetter@yandex.ru; Azerbaijan State Medical University, Baku, Republic of Azerbaijan, morpholetter@yandex.ru

Key words: impregnation, argyrophility, nerve tissues, blood micro vessels

Background. Methods of the impregnating of the nerve tissue and the walls of blood micro vessels

which determined with solutions of silver salts, still remain empirical, little-informative, and give numerous artifacts.

Aim. The aim of this study is to develop and test a universal method of selective detection of argyrophilic structures in various organs and tissues.

Material and Methods. The investigation was carried out under etheric anesthesia on next experimental animals: on 5 inbred dogs, on inbred 7 cats and 17 white inbred laboratory rats. The first stage of the experiment was the preparatory procedure-perfusion into the bloodstream through the abdominal aorta of a 0.7% solution of salt of the silver nitrate AgNO₃ and 0.1% hydroquinone (the authorship certificate of USSR № 1619, 08/09/1990). The second stage was an increasing of the argyrophility of the wall of the blood micro vessels and surrounding tissues with barium hydroxide. The third stage was the impregnation of frozen sections with a thickness of 25.0–100.0 µm and an square of up to 10.0–15.0 cm², which was modified by the histological method of Bielschowsky—Gross.

Results and Discussion. The developed new method allows improving the quality and informativity of the impregnated preparations, the value and reliability of the results of histological studies. With using of this method new data have been obtained on the structural organization of the lymphatic vessels, and syncytial connections of neurocytes in the ganglia of the autonomous nervous system of the intestinal wall.

DISC HERNIATIONS AND CAUDA EQUINA COMPRESSION IN BILATERAL OSSEUS AND COMBINED FUSION LUMBOSACRAL TRANSITIONAL ANATOMY TYPES

**Matveeva N. ^{1*}, Chabukovska R. J. ²,
 Papazova M. ¹, Zhivadnikov J. ¹, Zafirova B. ¹,
 Chadikovska E. ¹, Bojadzieva B. ¹, Dodevski A. ¹,
 Trpkovska B. ¹**

¹ Institute of Anatomy, Medical Faculty, University «Ss. Cyril and Methodius» Skopje, Republic of Macedonia;

² University Clinic of Surgery «St. Naum Ohridski» Skopje, Republic of Macedonia

* niki.matveeva@medf.ukim.edu.mk

Key words: spine, lumbosacral transitional vertebra, MRI, disc herniation, cauda equina

Background. The relationship between different lumbosacral transitional vertebra (LSTV) types, disc herniations and neural structures compromise has been sporadically reported.

Aim. To analyze disc herniations prevalence and distribution and to grade cauda equina compression in the LSTV types with osseus fusion of the last lumbar vertebra.

Material and Methods. A total of 75 patients (mean age 55.54±9 years) with lumbosacral radicu-

lar syndrome who underwent MRI examination of the lumbar spine were included in the study. These patients were separated in two groups. Study group comprised 29 patients who presented with osseus fusion LSTV; 14 patients with bilateral osseus and 15 of them with combined fusion LSTV type. Forty six patients without LSTV were added randomly and referred to as the control group.

Results and Discussion. There were significantly more disc herniations (86%, 87% vs 59.4%, $p=0.05$) and more severe cauda equina compression (14%, 20% vs 3%, $p=0.009$, $p=0.01$) at the level that assumes the role of lumbosacral junction in bilateral osseus and combined fusion group each compared to the control group. At the adjacent proximal level less disc herniations (50%, 53% vs 55.7%) but more severe cauda equina compression (36%, 27% vs 21%) was observed in both LSTV groups, each compared to the control group.

Conclusions. In conclusion, altered morphology and biomechanics in osseus fusion LSTV types provoke disc herniations and severe cauda equina compression to occur more frequently proximal to the level of transition.

SMALL GROUP LEARNING METHOD STIMULATES STUDENT'S INTEREST FOR NEW COGNITIONS IN HISTOLOGY AND EMBRYOLOGY

Milenkova Liljana, Kakasheva-Mazhenkovska L., Kostadinova-Petrova I., Gerasimovska Z., Kostovski M.

«Ss. Cyril & Methodius» University of Skopje, Republic of Macedonia, Faculty of medicine, Institute of medical histology & embryology
liljana.milenkova@gmail.com

Key words: *students, study guide, small group learning, questionnaire, cognition, elaboration*

Aim. To compare «small group learning» method with traditional «teacher centered learning» and assess whether it further stimulates student's interest for new cognition.

Material and Methods. Classes of human Histology & embryology; First semester: traditional (teacher centered) learning; Second semester: Small group learning method; Subject of analysis: students' answers from identical questionnaires asking to: identify types of information given in the Study guide; state new cognition gained from H&E classes; report whether home review was undertaken (answering questions by elaborating on newly adopted knowledge).

Results and Discussion. In teacher centered learning, different types of information from the study guide were identified by 36.4% of students. Skill acquiring was recognized by 1.4%. Concrete statements of new cognition were given by only 9.2%. Interest in answering questions by elaborating

on newly adopted knowledge was reported by 2%. With small group learning method, different types of information from the study guide were identified by 54% of students. Skill acquiring was recognized by 5.5%. Concrete statements of new cognition were given by 36.1%. Interest in answering questions by elaborating on newly adopted knowledge was reported by 19.7% of students.

Conclusions. Introducing the «small group method» notably increases the number of students who use the study guide for better informing; are able to specifically state newly adopted facts; consistently try «home review» by elaborating on newly adopted knowledge.

Homepage to distribute the anatomy learning contents including visible Korean products, comics, and books

Min Suk Chung

Department of Anatomy, Ajou University School of Medicine, Suwon, Republic of Korea
dissect@ajou.ac.kr

Key words: *internet, learning, anatomy, visible human projects, cartoons, books*

The authors have operated the homepage (anatomy.co.kr) to provide the learning contents of anatomy. From the homepage, sectioned images, volume models, and surface models — all Visible Korean products — can be downloaded. The realistic images can be interactively manipulated, which will give rise to the interest in anatomy. The various anatomy comics (learning comics, comic strips, plastination comics, etc.) are approachable. Visitors can obtain the regional anatomy book with concise contents, mnemonics, and schematics as well as the simplified dissection manual and the pleasant anatomy essay. Medical students, health allied professional students, and even laypeople are expected to utilize the easy and comforting anatomy contents. It is hoped that other anatomists successively produce and distribute their own informative contents.

NEW INSIGHTS OF THE ZYGOMATICUS MINOR MUSCLE CONNECTING THE ORBITAL AND MOUTH REGIONS: ITS ARRANGEMENT AND ATTACHMENTS

Mi-Sun Hur

Department of Anatomy, Catholic Kwandong University College of Medicine, Gangneung, Republic of Korea
mshur10@gmail.com

Key words: *mouth, orbital region, electromyographic analyze, muscles*

Aim. The present study aimed to investigate the arrangement and terminal attachments of the zygomaticus minor muscle (Zmi) fibers connecting the orbital and mouth regions.

Material and Methods. The Zmi was examined in 32 specimens of embalmed Korean adult cadavers.