to access, variable, and often located with facial ones in one area, which are larger in caliber and can «hinder» the search for lower alveolar arteries.

Aim. Therefore, the purpose of our study was the development of the method of ultrasound examination of these arteries and the study of their blood circulation parameters in the norm.

Results and Discussion. We performed ultrasonic triplex scanning of the lower alveolar arteries of 20 healthy people using the «Vivid E9» device of the company «GE Health Care», the blood flow parameters were determined. To interpret the parameters, we compared them with the parameters of the facial arteries. In the study of the facial arteries the following results were obtained: PS — 55.7±0.9 cm/sec, ED — 10.15±0.3 cm/sec, TAMX — 52.0±1.1 cm/s, PI — 1.32±0.06, RI — 0.77±0.03, PS/ED — 2.30±0.1, HR — 35.36±1.9 bpm.

The parameters of the lower alveolar arteries: PS blood flow 57.96±0.7 cm/s; ED 5.47±0.1 cm/s; TAMX 17.22±0.5 cm/s; PI 3.05±0.1; RI 0.91±0.05; PS/ED 10.60±0.2; HR 69.48±0.4 bpm.

Comparing the parameters, the peak systolic velocity, the pulsation index, and the resistance of the lower alveolar arteries were not significantly different from the indices of the facial arteries. The final diastolic blood flow velocity was 2 times lower in the lower alveolar arteries, the mean maximum speed was 2.5 times greater in the facial arteries, the systolic-diastolic ratio was 4 times higher in the lower alveolar arteries, the resistance index was 2 times greater in the lower alveolar arteries.

Conclusions. Thus, we developed a technique for studying the lower alveolar vessels, blood flow indicators were obtained in them, which can be taken as average normal ones.

COMPOSITION OF THE ANTERIOR WALL OF THE EXTERNAL ANAL SPHINCTER IN FEMALE: SUPPORTING SYSTEM BY TWO MUSCLE SLINGS

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Key words: *external anal sphincter muscle, superficial transverse perineal muscle, puborectalis muscle, bulbospongiosus muscle, anal canal*

Background. The external anal sphincter (EAS) is generally recognized as the oval tube of the striated muscle, and it is well known that EAS is partly adjoined by the superficial transverse perineal muscle (STP) anteriorly and the puborectalis (PR) posteriorly. However, it is still unclear the arrangements of the muscle bundles of EAS.

Aim. The aim of this study is to clarify the precise morphological structure of EAS especially the anterior region.

Material and Methods. We used 19 pelvic halves from 11 female cadavers (average 81.3 years old). The muscles of the pelvic floor were dissected from the inferior aspect. Then, the perineal muscles and organs were removed from the coxal bone en bloc to dissect from the inner surfaces.

Results and Discussion. The bulbospongiosus (BS) attached to the anterolateral surfaces of lower part of EAS. The anterior wall of EAS was composed of three muscle bundles, and they were arranged in parallel in order from the top: 1) anterior bundle of PR as the upper bundle; 2) STP and 3) the proper circular muscle. The STP ran on the superomedial surface of BS to run between PR and the proper circular muscle. The anterior bundle of PR and STP were connected with the same muscle bundle on the contralateral sides. The posterior bundles of PR formed a muscle sling on the posterior part of the anal canal.

Conclusions. The anterior region of the anal canal is supported by the two muscle slings by the anterior bundles of PR and STP.

PERIODS OF BRAIN GROWTH IN POSTNATAL ONTOGENESIS

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Key words: *brain, post-natal ontogenesis, morphogenesis, adulthood*

Aim. Aim of the investigation: to determine vital brain size in different periods of post-natal ontogenesis and to reveal the main stages of brain morphogenesis.

Material and Methods. The examining of the patients was carried out in 23 groups from 1 to 25 years of age. Archival MR tomograms of the patients without signs of organic lesions of the brain were verified.

Results and Discussion. The enlargement of the longitudinal size of the brains occurs within 3 periods with different intensity in each. In males the following stages are marked: 1st stage (1–8 years of age), 2nd stage (9–14 years of age), 3rd stage (15–20 years of age). In females these stages have proved to be different: 1st stage (1–6 years of age), 2nd stage (7–14 years of age), 3rd stage (15–21 years of age).

After 1st year of life the length and the width of the head still enlarges distinctly up to 3–4 years of age. At the age of 5–6 years of age growth

rate decreases sharply. At the age of 7–8 years of age the enlargement of head length is marked again being followed by the period of stability. This period lasts till 12 years of age in girls and till 13 years of age in boys. In juvenile period the length of the brain increases mainly in boys while in girls the growth of the brain lengthwise and breadthways is approximately similar.

Conclusions. Staging of the brain growth has been determined; the starting point of the period of relative stability correlates with the beginning of the first period of the adulthood.

PREVENTIVE EMBOLIZATION OF UTERINE ARTERIES AS A METHOD OF CONTROLLING MASSIVE OBSTETRIC HEMORRHAGES

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Key words: *blood supply, review, uteri, embolization, hemorrhage risk, bleeding*

Aim. To assess the sphere of application, safety and efficacy of preventive embolization of uterine arteries (EMA) before obstetric interventions with a high risk of developing massive bleeding.

Material and Methods. Analysis of domestic and foreign scientific articles of recent years from the bases of Pubmed and eLibrary.

Results and Discussion. Uterine arteries embolization (UAE) in modern obstetrical practice is a common procedure which is successfully implied for surgical treatment of uterine myomas and postpartum hemorrhages. However, it is more rational to use this method in preventive purposes to avoid massive blood loss. Prophylactic UAE may be conducted during the procedure of interrupting ectopic pregnancy (cervical pregnancy or in rumen after caesarean section), as well as before removal of vascularized placenta remnants and delivery by caesarean section in case of true placenta ingrowth (placenta accreta), which helps to avoid such serious complications, as a hysterectomy. UAE is performed by catheterization of the right common femoral artery or bilateral catheterization according to recommendations. In the uterine arteries, an embolization drug is administered (usually polyvinyl alcohol). Thrombin may also be used as an embolization agent, which has a high affinity to the tissues of the body and biodegradability.

Conclusions. It is recommended for women with high hemorrhage risk or bleeding symptoms to perform an UAE before obstetrical intervention, which is a safe and effective method of combating serious blood loss, especially for those patients who want to maintain their fertility.

COLUMNAR ORGANIZATION OF PARAHIPPOCAMPAL GYRUS IN HUMAN BRAIN

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Key words: *cytoarchitecture, humans, parahippocampal gyrus, columnar organization, temporopolar cortex*

Backwords. The parahippocampal region, as defined in this review, comprises the cortical regions that surround the rodent hippocampus including the perirhinal, postrhinal, and entorhinal cortices. Parahippocampal gyrus is very important in the memory process. All other pathways especially from telencephalon are involved in bringing information.

Aim. This information is then processed here and through efferent roads is forwarded to hippocampus.

Material and Methods. Twelve anatomical cadaver samples of parahippocampal gyrus from two hemispheres of the brain cortex of from the age of 25 to 85 were used. They were treated with 12% formalin, isolated and dehydrated, 1040 sections were prepared in transversal and frontal plane and colored with Nissl method.

Results and Discussion. In the surface of parahippocampal gyrus, small lumps with irregular shapes have been observed. These are more significant on the first and second layer, where the cells are grouped in an island like shape, where in the middle acellular spaces are observed. These cells are composed of stellar and polygonal cells, consisting of big nucleus and cytoplasm rich in chromatin. These changes are very unique and are observed only in parahippocampal gyrus, which correspond to entorhinal area. Their size is variable, though based on our results the transversal diameter is around 0.25 to 2 mm respectively, and the longitudinal diameter is from 0.4 to 2.4 mm respectively.

Conclusions. Verruca hippocampi which define the boundaries of entorhinal area, can be observed in different sizes. Their number also differs from the right and left side, which indicates that there is an asymmetry of the entorhinal area.