Conclusions. Presence of anastomoses between branches supplying pancreas has clinical significance for surgery, especially when performing proximal pancreatic resections.

VARIANT ANATOMY OF THE CORONARY ARTERIES

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Key words: *coronary arteries, heart, anatomy, coronary anastomoses*

Aim. The study was designed to establish anatomical features of the heart arteries depending on the heart shape and type of the blood supply and to reveal the presence of inter- and intra-arterial coronary anastomoses.

Material and Methods. Using cryoprepartion we examined 140 macro-preparations of the adult heart (aged 18–45 years) of both sexes.

Results and Discussion. At the most common right-coronary type (51.4% of cases, $p<0.05$) of heart blood supply in 83.3% of cases the heart was of dolicho-ventricular shape and in 16.7% of meso-ventricular shape ($R=0.87$); the degree of anastomoses development (both intra-and inter-systemic) was defined as the average. Myocardial bridges were detected in 43.1% of cases of the right-coronary type hearts. Most often (93.5%) of myocardial bridges were located above the anterior interventricular branch of the left coronary artery, and only in 6.5% of cases — over the right coronary artery ($p<0.05$). At the left-coronary type of blood supply (25.7% of cases) all hearts were brachio-ventricular shape ($R=0.87$), the degree of anastomoses development was defined as low and myocardial bridges were less common ($p<0.05$) than in other types (13.9% of cases) and in all cases were located above the anterior interventricular branch of the left coronary artery.

Conclusions. The study of the variant anatomy of the coronary arteries is of a great interest because it influences outcomes of the cardiovascular diseases prophylaxis and treatment.

PECULIARITIES OF THE STRUCTURAL ORGANIZATION OF THE ARTERIAL SUPPLY IN LIVER

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Key words: *blood supply, liver, MCT, pancreatic arteries*

Aim. The aim of the study was to establish general patterns and individual anatomical variability of the hepatic arterial supply.

Material and Methods. 150 multispiral computed tomography scans were examined.

Results and Discussion. Our study revealed new variants and features of the structural organization of the hepatic arterial supply: a) a significant amount (25.2%) of additional arteries in the right lobe, in the left lobe — 4.7%, both lobes — 0.7%; b) trifurcation of the proper hepatic artery in the hilus of liver: in addition to the right and left branches, there was an artery to the quadrate lobe of liver, from which in turn departed a branch to the lesser curvature of the stomach; c) the length of the common hepatic artery depends on the shape of the duodenum: short artery (5.2±0.37 mm) — in its vertical form ($p<0.0001$); long (27±0.3 mm) — in horizontal ($p<0.0001$); intermediate length (7.1±0.3 mm) — in horseshoe-shaped ($p<0.0001$) form; d) the first hepatic segment is the most variable depending on the number of arteries (from 4 to 5 arteries in 19.2%) ($p<0.05$).

Conclusions. Presence of the intra and intersistemic anastomoses of pancreatic arteries influences the outcome after surgical treatment of pancreatic diseases and should be carefully studied during preoperative examination.

MORPHOLOGICAL VARIANTS OF MENISCUS OF KNEE JOINT AND ITS CLINICAL IMPLICATIONS, AN AUTOPSY STUDY

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Key words: *autopsy, incidence, knee joint, meniscus*

Aim. The objective of the present study was to study the various shapes of medial and lateral menisci of human knee joint and to determine the prevalence of discoid lateral meniscus in Indian population.

Material and Methods. The present study included 25 human bodies, which were available at the medico legal autopsy in a government hospital in India. Among them 10 were male and 15 were females. There were 50 knee joints (25 right sided and 25 left sided) being studied, which included 50 medial menisci and 50 lateral menisci. Totally 100 menisci were studied.

Results and Discussion. Among the medial meniscus, 34 (68%) were resembling 'sided v' shape, 7 (14%) had 'crescent' shape, 4 had sickle shape (8%), 'C' shape was observed in 3 cases (6%) and 2 were having 'sided U' shape (4%). The present study observed that 29 lateral menisci were having incom-

plete discoid morphology (58%). The lateral menisci were having 'C shape' morphology in 16 cases (32%) and crescent shape in 5 cases (10%).

Conclusions. The present study observed various shapes of medial and lateral menisci in the human knee joint. The incidence of discoid lateral meniscus was 58%. However all these were incomplete discoid in morphology and the complete discoid meniscus was not observed in the present study (0%). The discoid medial meniscus was not observed in the present study (0%). We believe that the data of the present study is enlightening to the orthopaedic literature and incomplete discoid lateral meniscus may be considered as a normal variant.

MORPHOLOGICAL CHARACTERISTICS OF THE ANTERIOR COMMUNICATING ARTERY

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Key words: *anterior communicating artery, brain, anatomy, origin, diameter*

Aim. Cerebral circulation, especially arterial, in recent decades has attracted the interest of anatomists and clinicians. The anterior communicating artery acts as an anastomosis between the left and right anterior cerebral arteries. The aim of this study was to determine the morphological and topographic characteristics of the anterior communicating artery and its variations.

Material and Methods. The investigations of anatomical characteristics of the anterior communicating artery are made on 133 human brains without cerebrovascular pathology, from both sexes at age from 23 to 68. Brains were fixed in a 10% solution of formaldehyde, and the obtained material was analyzed using a stereoscopic light microscope.

Results and Discussion. The length of the anterior communicating artery ranged from 0.6 to 7.6 mm, with mean value of 2.6 mm. The diameter ranged from 0.5 to 5.1 mm, with a mean value of 2.0 mm. In 54% of the cases anterior communicating artery was presented as a single artery connecting the anterior cerebral arteries. The most common variations of the anterior communicating artery were *Y* or *V* shaped (frequency 29%), plexular (frequency 8%), duplication (frequency 4%) and common trunk of anterior cerebral arteries with absence of anterior communicating artery (frequency 4%).

Conclusions. Detailed anatomical knowledge of the anterior communicating artery is important when considering vascular surgery in the area of the anterior portion of the circle of Willis, since is the most common site of intracranial aneurysm formation.

TRANSPLANTATION OF THE REVASCULARIZED TRACHEA IN THE EXPERIMENT AND, FURTHER, IN THE CLINIC WITH A GOOD REMOTE RESULT

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Key words: *transplantation, trachea, thyreotrial complex, experiment, vital organs*

Transplantation of vital organs has now become a daily reality. However, unlike many other organs, in clinical practice there is no reliable transplant of the trachea, capable of replacing it with total lesion. This is due to the peculiarities of the anatomy of the trachea, as well as its constant contact with the external environment, leading to infection of the trachea. The goal of the research was to develop an anatomical model of transplantation of a revascularized trachea with the aim of its clinical use for the tracheal defects replacement after extensive resection. In the anatomical theater were performed 109 experiments in which the anatomy of the vascular pedicle of the trachea was studied, the area of perfusion of the tracheal wall through the thyroid arteries was determined. Thus was developed a new method of transplantation of the revascularized trachea in the composition of the thyreotrial complex. Was developed the donor selection stage of the organ, which was carried out in 17 cases. Preference was given to the «fast» version of the fission of the thyreotrial complex, which is convenient to use in the multi-organ fence in the donor after the death of the brain. Recipient stage (n=5) was performed after subtotal resection of its own trachea. The blood supply was restored by superimposing vascular anastomoses of the lower thyroid arteries and the veins of the donor complex with the receptor vessels. The choice of recipient vessels was carried out individually in each specific case, depending on the location of mediastinal and transplant structures. In the experiment were determined on animals the permissible time of thermal ischemia of the thyreotrial complex, the preservative solution and the features of reperfusion injury. Thus, for the first time a technique for transplantation was proposed of the trachea in the composition of the thyreotrial complex with one-stage revascularization through the lower thyroid vessels. This technique used us in the clinic. The patient is a 37-year-old man with a diagnosis The operation was done for 37-year-patient with diagnosis: «Afterthracheostomic subtotal cicatricial stenosis and malacia trachea. The membranous part defect