donor organ becomes available) or a permanent transplant. It takes the form of closed, ex vivo systems containing functional liver cells grown on a synthetic matrix.

The aim of the present study is to obtain a bioartificial rat liver by consequently using of the decellularization and recellularization specific methods.

Materials and methods: 20 rats ranging in age from 6 weeks to 3 months have been used for obtaining intact rat liver. The obtained liver was mounted on a decellularization apparatus for perfusion. The portal vein was cannulated and the liver was first perfused with heparined phosphate buffered saline "PBS" (+ penicillin, amphotericin B, streptomycin) to clear blood from the organ. The liver was then decellularized with 500 ml water containing 1% sodium dodecyl sulfate "SDS" and 1% Triton X for at least 6 hours each time using a pump with manual recirculation. In some livers we have tried to use some other specific enzymes. The organ was then washed with deionized water and then with PBS for about 24 hours. Successful decellularization was defined as the lack of nuclei or cytoplasmic staining using histological evaluation method with Hematoxilin Eosin. The decellularizated liver was then recellularized with regenerative cells.

Results: This research work allowed us to obtain a bioartificial rat liver.

In the process of decellularization and recellularization of the rat's liver we have improved in some way the current technology and methods using a simple and effective apparatus for perfusion. An organ or tissue generated by this method could be transplanted to the rat model of chronic hepatitis.

In certain instances, a decellularized organ may be recellularized with cells in vivo (e.g., after the organ could be transplanted into an individual). Engineering of a transplantable liver would be a permanent alternative to donor liver transplant.

Conclusions: These results provide a proof of principle for the generation of a transplantable liver graft as a potential treatment for liver disease.

Key words: bioartificial liver, decellularization, recellularization, transplant.

VARIANT ANATOMY OF THE LEFT GASTRIC VEIN

Reznitsky P., Sechenov I.

Academic adviser: Litvinenko L., M.D., Ph.D., Professor, First Moscow State Medical University "I.M. Sechenov", Moscow, Russian Federation

Introduction: Investigation of the venous vessels of the gastroesophageal transition is an actual problem in the surgery of the portal hypertension, and the basic knowledge of anatomical variants of the left gastric vein, as the main porto-caval anastomosis in the celiac region, is essentially important, because bleeding from the gastric varices accounts for 20-30% of all bleedings from varices and it is hard to stop this bleeding through endoscopy.

Materials and methods: From 2008 to 2011 year 90 gastro-intestinal complexes of corpses of adult people, both sexes, who had no gastroenterological diseases, were dissected and the celiac venous vessels were investigated by means of X-ray. At the end of our practical part the investigated information was processed statistically.

Results: In 89(98,9%) of 90 cases the left gastric vein (LGV) was found as an isolated vessel. In 1 case (1,11%) the LGV was a type of anatomical variant. Its gastric branch anastomosed with the right gastric vein along the lesser curvature of the stomach. The esophageal branch went up to the esophagus, along

the posterior wall of the stomach. During the dissection instead of a unique trunk of the LGV we found 3 small venous vessels in diameter of 2-3 mm, which ran into the portal vein. These vessels ran from the gastric and esophageal branches down to the celiac trunk and formed a plexus around the celiac trunk. We also investigated the relationship between the LGV and other veins of portal system in other 89 cases. In 50 cases the LGV had a duplicative course with the left gastric artery (LGA) and ran into the portal vein (41 cases, 82%) or into the angle of merge of splenic and inferior mesenteric vein (6 cases, 12%), or into the splenic vein (3 cases, 6%). In 39 of 89 cases (43,82%) the LGV was running separately from the LGA, crossing a common hepatic artery (23 of 89cases, 25,84%) or a splenic artery (16 of 89 cases, 17,98%). In both of these variants the LGV ran into the portal or splenic vein.

Conclusion: In 1,11% of all investigated cases we haven't found the unique trunk of the left gastric vein, which takes place in forming the very serious porto-caval anastomosis during the portal hypertension. Existing of such anatomical variants can provide not only very dangerous in diagnosis and prognosis gastro-duodenal bleeding, but also may cause technical problems during the hemostasis.

MORPHOMETRIC CHARACTERISTICS OF COMMON CAROTID ARTERIES BIFURCATION IN MEN WITH DIFFERENT SHAPE OF THE NECK

Kan I., Gershman S., Agayev Z., Avdeev A., Galats K., Samotesov P., Levenets A.

State Medical University "Prof. V. F. Voyno-Yasenetsky", Krasnoyarsk, Russian Federation

Introduction: In the last decade, the anatomical structure of the bifurcation of common carotid arteries has attracted particular attention of anatomists and clinicians.

Objective: To identify the morphometric characteristics of the bifurcation of common carotid arteries in men with different forms of the neck.

Techniques: 90 male cadavers (36-60 years) were studied. The lengths of the neck, its frontal and sagittal dimensions of its base were measured. Classification of forms of the neck by A. Sozonov-Yaroshevich: long and narrow neck, index ≤ 67,2; neck of average length and average diameter, index = 67,3-79,5; short and wide neck, index ≥ 79,6. Morphometry was performed at bifurcation of the common carotid artery (CCA) on the right and left (length, diameter, angle of bifurcation, the lateral angles with the external (ECA) and internal (ICA) carotid arteries).

Results: Cadaveric material was distributed into 3 groups: men with long, narrow neck, n = 27, men with a neck of medium length and average diameter, n = 38; men with short and wide neck, n = 25. The length of the bifurcation of the OCA in men with long, narrow neck was the highest in comparison with the other groups studied, and was right on average 23,2 ± 5,4 mm, and left to 21,4 ± 5,1 mm, while the diameter was the smallest - 9,3 ± 2,2 mm on the right and 9,2 ± 2,3 mm on the left. The angle of bifurcation of men in this group was also lower and averaged 6,6 ± 0,6 ° to the right and 7,2 ± 0,8 ° to the left. The average value of the right side corner of the NSA was 178 ± 1,2 °, on the left, it was 176 ± 0,7 °. The value of the lateral angle of the ICA was equal to an average of 174 ± 0,9 ° right and 175 ± 0,5 ° to the left. A group of people with short and wide neck, the average length of the bifurcation of the CCA was minimal, with both its greatest diameter. Its length is right on average 14,9 ± 5,3 mm, and left to 14,6 ± 5,0 mm. The diameters were equal to the values of 22,2 ± 6,4 mm and 23,5 ± 6,9 mm on the right and left, respectively. The apical angle in this group of men studied was 27,0 ± 0,9 ° to the right and 29,3 ± 0,8 ° to the left. Angle with the NSA was on average 167 ± 1,5 °, and the left - 164 ± 2,6 °. Side angle with the right internal carotid artery was 158 ± 2,4 °, the left was equal to the value of 160 ± 1,4 °. On the neck of