ment were operated with the application of laser radiation. An erbium laser with a wavelength 2940 nm was used. In the preopertive period all the patients have undergone clinical, radiological and laboratory study of blood. The patients were consulted by a hematologist. The number of homocysteine in the mixed saliva and the number of fibroblast growth factors β were determined.

Results. None of the patients had postoperative bleeding, post-surgical pain. Complete epithelization took 11–12 days. The results of immunoenzyme analysis confirmed a small lesion and good tissue regeneration after the erbium laser application.

Conclusions. Important advantages of laser application in surgical treatment of patients with hemostatic disorders were reliable hemostasis and low injury rate.

VARIATIONS OF LOBES AND FISURES IN HUMAN FETAL LUNGS: A CADAVERIC STUDY

Lazarova D. [1], *Nakeva N.* [1], *Dodevski A.* [1], *Kostovski M.* [2]

[1] Institute of Anatomy; [2] Institute of Histology, Medical Faculty Skopje, Republic of Macedonia

Key words: *lungs, oblique fissure, horizontal fissure, fetuses*

Background. The human lungs are divided by fissures into lobes, which facilitate movements of lobes in relation to one another. Anatomical variations of lungs including number, fissures and lobes are at utmost important.

Aim. The study was done to note the morphological variation of the fissures and lobes in fetal lungs.

Material and Methods. 62 human fetuses from 12 weeks to 40 weeks of gestational age were collected from the department of Obstetrics and Gynaecology, University Clinic Hospital, after getting formal permission from the concern authority/ persons and the Institutional Ethics Committee. After fixation in 10% formalin, fetuses were dissected and both lungs were removed for examinations.

Results and Discussion. On the right side, 8 specimens showed incomplete oblique fissure, 39 specimens showed incomplete horizontal fissure, 1specimen showed absence of horizontal fissureand 9 specimens showed superior accessory fissure. On the left side, 5 specimens showed incomplete oblique fissure and the left minor fissure was seen in 8 specimens.

Conclusions. Knowledge of lobes and fissures in a particular population might help the clinician during diagnosis and partial resection of lungs. This may reduce morbidity and mortality associated with lung disease.

FEATURES OF THE PERSON HEART TOPOGRAPHY IN 16–22 WEEKS OF PRENATAL ONTOGENESIS

Liashchenko D. N.

Orenburg State Medical University, Orenburg, Russia, Human Anatomy Department
lyaschenkod@mail.ru

Key words: *fetal heart, topography, fetal surgery*

Background. Now the person heart is one of subjects to fetal operations.

Aim. Therefore information about heart topography and it features in the prenatal period are necessary for doctors of various profile. Obtaining new data on heart topography at person fetus of 16–22 weeks of development became a research objective.

Material and Methods. Material of this research is 30 fetus torsos of both sexes without pathology of chest and abdomen organs.

Results and Discussion. Results of a research have shown that in 16–22 weeks of prenatal ontogenesis the superior, inferior and right borders of heart are extended with the stability of left border. The left border of heart throughout all studied age period doesn't change the localization and has the projection on the left anterior axillary line. The right border of the heart is displaced to the right by 22nd week: at 60% of samples have the projection on parasternal line, at 40% — on right middle clavicle line. Heart is displaced closer to the anterior chest wall by 22nd week. Sintopiya of fetal heart has individual distinctions which are shown in relationship of heart with the thymus, the esophagus and the left lung. Distances from heart to surrounding organsare increased ranging from 5% (to the left main bronchi) up to 69% (the right vagus nerve).

Conclusions. Thus the heart topography in 16–22 weeks of ontogenesis has the features which have to be considered at fetal operations.

CHANGES IN TOPOGRAPHY OF THE RETROPERITONEAL ORGANS IN TWO BODY POSITIONS: ON THE BACK AND ON THE SIDE

Liashchenko S. N., Demin D. B., Urazov D. F.

Orenburg State Medical University, Orenburg, Russia
serglyashenko@mail.ru

Key words: *kidney, displacement, retroperitoneal organs, topography*

Aim. The aim is to study the changes in topography of the retroperitoneal organs at body position on the back and in the lateral position.

Material and Methods. Data of multispiral CT-scan of 36 patients with body position on the back and lateral side were studied. 19 patients were with the left side, 17 with the right side body position. There were 19 women (52.8%) and 17 men (47.2%). The middle age was 57.3±12.2 year. The system of coordinates has been offered. The vertical

line through the center of the vertebra body (OY axis) was drawn. The perpendicular line through middle of spinal canal was drawn (OX axis).

Results and Discussion. The measurements of the right side showed the following: concerning the OX axis the superior pole is displaced on a distance of 19.9±6.5 mm, the kidney at the level of the hilum on a distance of 20.3±6.3 mm, the inferior pole — 28.6±14.6 mm. Superior pole of the right kidney approaches to OX axis on a distance of 5.5±1.9 mm, at the level of the hilum on 10.3±5.0 mm, the lower pole — 23.6±10.3 mm. The identical measurement of the left side showed that concerning the OX axis the superior pole is displaced on a distance of 16.6±7.7 mm, at the level of the hilum 21.3±6.3 mm, the inferior pole — 30.8±10.1 mm. In relation to the OY axis the left kidney at the level of the superior pole is displaced on a distance of 8.2±4.0 mm, at the level of the hilum on a distance of 13.5±7.2 mm, inferior pole — 31.8±12.3 mm. The vertical displacement of the kidney attracts attention: upward shift was found in 11 cases, and average displacement is on a distance of 11.5±5.9 mm; the downward shift was observed in 25 cases (17.2±8.4 mm on average).

Conclusions. Displacement of the left kidney at all levels was higher than the displacement of the right kidney.

MORPHOLOGICAL CHANGES AFTER PLASTIC RECONSTRUCTION OF THE PLEURAL CAVITY IN THE EXPERIMENT

Liashchenko S. N., Vasyukov M. N., Vasyukov A. M., Filippov M. V., Karasartov T. S.

Orenburg State Medical University, Orenburg, Russia
serglyashenko@mail.ru

Key words: *pleural cavity, anatomy, postpneumonectomy*

Aim. The aim of the study is early prevention of a postpneumonectomy syndrome in experiment.

Material and Methods. During the first series of the experiment the left pneumonectomy was conducted in 5 chinchilla rabbits. In the second series of experiments the plastic reconstruction of 1/3 volume of postpneumonectomy cavity was made in 5 animals. During the third series of experiments the plastic reconstruction of 2/3 volume of postpneumonectomy cavity in 5 rabbits was executed. In the postoperative period CT-scan control was carried out at 30, 90, 180 days. The animals were euthanized on 180 day. Lungs were studied using microscopic sections and histotopograms stained with hematoxylin-eosine and picrofuksin.

Results and Discussion. In the postoperative period after the left pneumonectomy at the level of Th_6 the right lung was twice enlarged in a lateral size (30.6±4.7 mm on average), the area of the lung was 1.5 times enlarged from 1141±132 to 1756±167 mm^2. After the plastic reconstruction the area of the lung is enlarged 1.3 and 1.2 times. Histotopograms showed the enlargement of lung airness with a large number of hyperinflated air-cell. Microscopic sections showed that acini had flattened shape, some acini had the destroyed wall and were merged in microcavities of 500–1500 microns in size. In case of plastic reconstruction of the cavity after the removal of the lung mediastinum organs and structures are not displaced, the lung is stretched moderately. On histotopograms the lung structure differs slightly from the norm, microcavities of 150–250 microns in size are located evenly in the central and peripheral parts of the lung. Difference between the second and third experimental series is the high enlargement of a heart segment of the right lung in case of the plastic reconstruction of 1/3 volume of postpneumonectomy cavity. Histological sections showed enlarged acinuses, destruction of acinus's wall is occasional.

GASTRO-ESOPHAGEAL LACERATION SYNDROME (MELLORI—WEESS)

Maleev Yu. V., Litovkina T. E.

N. N. Burdenko Voronezh State Medical University, Voronezh, Russia
ymaleev10@yandex.ru

Key words: *discontinuous hemorrhagic syndrome, Mallory-Weiss syndrome (MWS)*

Background. The proportion of patients with Mallory—Weiss syndrome (MWS) accounts for about 13–17% of all gastrointestinal bleeding.

Aim. To study the gender and morphological features of the course of the MWS.

Material and Methods. The analysis of 102 patients treated with MWS was carried out.

Results and Discussion. Localization of the defect (102 patients): on the right defect was present in 39 (38.1%) patients; behind — in 35 (34.1%); on the left — in 13 (12.5%); in the front — in 16 (15.3%). More often the gap was located on the back and right wall 74 (72.2%). Topographical and anatomical features of the esophageal-gastric transition (PJP) are of decisive importance in the development of MWS. The greatest thickness and strength of the wall is noted in the front sector, which is adjacent to the weakest left. 51% of patients are unemployed. Abuse of alcohol in persons of this group is the main factor of the disease. In persons over 60 years of age, it occurs in 17.6%.

Conclusions. The localization of ruptures in MWS is due to the peculiarities of the morphological structure of the PJP: their preferential location in the right and posterior sectors is determined by the lower density of tissues in these sections and the presence of a fixing ligamentous apparatus.