Test Results and Conclusions

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[Medical Records from Time in Hospital for Gallbladder Removal](#First_heading)

[Dates in hospital: 08/12/2019 – 08/15/2019 (12.08.2019 - 15.08.2019)](#First_heading)

**THE ESTABLISHED DIAGNOSIS**

DIAGNOSIS ACCORDING TO THE BASIC STATEMENT ON 08/14/19 (14.08.19) : K80.1

Gallstone disease (cholelithiasis), chronic calculous cholecystitis

ASSOCIATED DISEASES: Chronic biliary-dependent pancreatitis, remission. Duodenal ulcer (ulcus duodeni), remission. Chronic erosive gastritis, positive for H. pylori, in remission.

Bilateral nephroptosis. CKD Stage 2 (GFR CKD-EPI 72 ml / min)

**SURGICAL OPERATIONS:**

**Laparoscopic cholecystectomy / Khokhlov A.V. / 13.08.2019**

**Description of the surgery:**

Carboxy-peritoneum with gas pressure of 12 mm Hg was applied; trocars were installed in typical places. The gall bladder is not enlarged, symptoms of chronic inflammation, a marked adhesion process in the subhepatic space with the inclusion of the greater omentum. The liver is compacted, finely tuberous/hummock , brown in color. No other pathological changes were detected. Cholecystectomy was performed with clipping of the cystic arteries and the cystic duct. No signs of biliary hypertension were detected, and there were no prerequisites for the conduction of cholangiography. Additional coagulation of the gallbladder bed was performed. Control of hemostasis, sanitation of the peritoneal cavity. Drainage of the gallbladder bed. Suturing of trocar wounds. Bandage.

**LABORATORY TEST RESULTS:**

**General clinical investigation (Date of collection: 12.08.2019)**

**Clinical urine test**

|  |  |  |
| --- | --- | --- |
| **Physico-chemical properties:** |   |   |
| Urine color | yellow |   |   |   |
| Transparency | transparent |   |   |   |
| Relative density |  1.026 |   |  (1.018 - 1.026) |   |
| pH |  5.5 |   |  (5.0 – 7.0) | sharply acidic |
| Protein |  0.00 | g/L |  (0.00 - 0.00) |   |
| Glucose |  0.00 | mmol/L |  (0.00 - 0.00) |   |
| Ketone bodies | negative |   |   |   |
| Bilirubin | negative |   |   |   |
| Urobilinogen | negative |   |   |   |
| **Urine sediment microscopy (urine analyser):** |   |   |
| Red blood cells | 2 | HPF  |   |   |
| White blood cells | <1 | HPF  |   |   |
| Squamous epithelium | <1 | HPF  |   |   |

*High Resolution HPF is with the x40 Microscope*

**Haematological investigation (Date of collection: 12.08.2019)**

**A full blood panel/ a complete blood count (hematology analyser (5Diff), Differential White Blood Cell Count - microscopy of a standardised smear, ESR according to Westergren)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| RBC | Red blood cells  |  5.11 |  1012 /L |  (4.00- 5.50) |   |
| HGB | Haemoglobin |  148 |  g/L |  (130 - 170) |   |
| HCT | Haematocrit |  44.6 |  % |  (40.0 - 48.0) |   |
| MCV | Mean corpuscular volume |  87.3 |  fL |  (80.0 - 99.0) |   |
| MCH | Mean corpuscular haemoglobin |  28.9 |  pg |  (27.0 - 33.3) |   |
| MCHC | Mean corpuscular hemoglobin concentration |  330.8 | g/L | (310.0 - 380.0) |  |
| RDW | Red blood cell distribution width |  13.9 |  % |  (12.0 - 15.0) |   |
| PLT | Platelet blood count |  241 |  109/L |  (180 - 320) |   |
| PDW | Platelet distribution width |  16.9 |  % |  (10.0 - 20.0) |   |
| PСT | Procalcitonin |  0.200 |  % |  (0.150 - 0.400) |   |
| MPV | Mean platelet volume |  8.3 |  fL |  (7.4 - 10.4) |   |
| WBC | White blood cells  |  6.75 |  109/L |  (4.00 - 9.00 |   |
| ESR | Erythrocyte sedimentation rate (Westergren) |  6 |  mm/ h |  (0 - 20) |   |

**Differential White Blood Cell Count (microscopy)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Stab/band neutrophils |  1.0 | % |  (1.0 – 5.0) |  0.07 | 109/L | (0.04 – 0.30) |
| Segmented neutrophils |  63 | % |  (47 – 72) |  4.25 | 109/L | (2.00 – 5.50) |
| Lymphocytes |  24 | % |  (19 – 37) |  1.6 | 109/L | (1.2 – 3.0) |
| Monocytes |  11 | % |  (3 – 11) |  **0.74\*** | 109/L | (0.09 – 0.60) |
| Eosinophils |  1 | % |  (1 – 5) |  0.068 | 109/L | (0.020 – 0.300) |
| Type of sampling |  Venous blood |  |  |

**Biochemical investigation (Date of collection: 12.08.2019)**

**Electrolytes**

|  |  |  |  |
| --- | --- | --- | --- |
| Potassium |  4.4 |  mmol/L | (3.5 – 5.1) |
| Sodium |  137.5 |  mmol/L | (136.0 – 146.0) |
| Chlorides |  105 |  mmol/L | (98 – 111) |
| Total bilirubin |  **21.6\*** |  μmol / L | (0.0 – 20.0) |
| Total protein |  67 |  g/L | (60 – 86) |
| Urea |  **9.0\*** |  mmol/L | (2.4 – 8.2) |
| Creatinine |  99 |  μmol / L | (50 – 115) |
| Glucose |  5.0 |  mmol/L | (3.5 – 5.8) |
| ASAT |  25 |  IU/L | (0 – 40) |
| ALT |  34 |  IU/L | (0 – 50) |
| Amylase |  64 |  IU/L | (28 – 100) |

**Immunological investigation (Date of collection: 12.08.2019)**

HIV-1 antibodies, HIV-2 antibodies, p24-antigen (Architect) 0.09 Index of Positivity

<1.0 - negative

Performed on Architect HIV Ag/Ab Combo, lot 95330 LI00, before 16.09.2019

Hepatitis C: Antibodies to HCV (Architect) 0.09 Index of Positivity (<1.00)

<1.0 – negative

Syphilis: antibodies to Tr. pallidum (Architect) 0.04 Index of Positivity

<1.0 – negative

Hepatitis B: HBsAg (Architect) 0.24 Index of Positivity

<1.0 – negative

**Identification of blood group and rhesus-factor (confirming)**

Blood type A II

Rh factor Rh positive

Gel cards firm Grigols ABO/Rh (2D)

from 18002.01; expiration date: 2019-11

Standard red blood cells A1/B

lot 1950.1; expiration date: 2019-09-05

Anti-A1 Lectin

lot 0203178; expiration date: 2019-09

Low ionic strength solution by Grifols DG Gel Sol

Lot 19004.01; expiration date: 07-2020

**Coagulologic investigation (Date of collection: 12.08.2019)**

**Prothrombin time (sec,% Kwick, MNO)**

|  |  |  |  |
| --- | --- | --- | --- |
| Prothrombin time |  12.0 | sec  | (9.4 – 12.5)  |
| Quick’s prothrombin time |  91 |  % | (70 – 130) |
| INR (international normalised ratio) | 1.06 |   | (0.89 – 1.20) |

**TEST RESULTS:**

**Roentgenography of the thorax in 2 projections / Gracheva O. Yu. /**  **12.08.2019**

Preliminary diagnosis for investigation: cholelithiasis/ choledocholithiasis

On roentgenograms of the organs of the thoracic cavity in 2 projections:

the lungs are straightened, without recently developed focal and infiltrative changes. The lung pattern is deformed due to vascular and peribronchial compressions. The roots of the lungs are not expanded; are structural. The location of the diaphragm is within the norm, the contour is distinctive. Sinuses are clear. The heart shadow is extended to the left side. The aortic wall is compacted.

**CONCLUSION**

The age-related changes to the organs of the patient’s thorax are within the normal and acceptable range.

**Electrocardiography / Tsukanova E.I. / 12.08.2019**

Medical report:

Sinus rhythm with a cardiac rate of 62

Horizontal position of the electrical axis of the heart

ECG: symptoms of early ventricular re-polarization

**CONSULTATIONS:**

**Primary consultation with an anesthesiologist- resuscitator / Anesthesiologist-resuscitator: Kirillov N.V. / 13.08.2019**

**Primary consultation with the therapist / Therapist: Maslyukov D.R. / 12.08.2019**

Medical comment: Description: ECG. Chronic calculous cholecystitis. Chronic biliary-dependent pancreatitis, remission. Duodenal ulcer (ulcus duodeni), remission. Chronic erosive gastritis, H. Pylori positive, in remission. Bilateral nephroptosis. CKD Stage 2 (GFR CKD-EPI 72 ml / min).

Recommendations: -Diet - Outpatient monitoring by a gastroenterologist - Nexium 20 mg twice a day, in the morning and evening 30 minutes before meals - 14 days - fiberoptic gastroduodenoscopy, colonoscopy- once a year - echocardiography, combined daily monitoring of ECG in 3 leads and arterial pressure with a ladder test, triplex veins of lower extremities, brachiocephalic vessels, ultrasound of the abdominal cavity organs and kidneys, thyroid gland.

**TREATMENT**: The patient was admitted to hospital in a planner manner for cholecystectomy. On the 13th of August, 2019 laparoscopic cholecystectomy was carried out. The postoperative period took place without complications. The wounds are healing by first intention.

**INSURANCE ANAMNESIS**: The patient had been in hospital for in-patient care from 12.08.19 until 15.08.19. The appointment at the polyclinic was on 16.08.19.

**RECOMMENDATIONS**:

1. Medical supervision by a surgeon in the home area.
2. Restriction of physical activity for 1 month.
3. Diet №5 (no fatty/ greasy/ oily, spicy, salty food)
4. To collect the results of the histologic examination in 10-14 days
5. Ketonal 10mg if in pain
6. Nexium 20mg twice a day for 14 days
7. Adherance to the recommendations of the therapist (refer to the note)

[Histological Examination of Surgical Material During Cholecystectomy](#Second)

[Date: 08/19/2019 (19.08.2019)](#Second)

Date: 19.08.2019

**Histological Examination of Surgical Material During Cholecystectomy**

Examination № B 19-6577

Macroscopic description: The incisure and cassetting were conducted on 14.08.2019: doctor- autopsist, Lyamina A.V. and medical laboratory assistant, Khmelevskaya E. I. F-1 gallbladder was anatomised; size 7x2cm. The serose was smooth, shiny. The mucosa was green and villous.

**Medical report : chronic cholecystitis**.

[Ultrasound Examination of the Abdominal Cavity](#Third)

[Date: 09/24/2019 (24.09.2019)](#Third)

Date: 24.09.2019

USS (Ultra Sound System) TOSHIBA APLIO 500

**Investigation №1514**

Liver- not enlarged/ Oblique Y-Dimension- 14.3 cm, left upperlobe- 8.4 cm x 5.9 cm/. The boundary of the liver is smooth, clear-cut. Medium echogenicity of the liver; homogeneous echostructure. No nidi and cardioliths were identified. The vascular patterns aren’t modified.

The bloodfloow in liver veins is three phase.

**Gallbladder**- is undetected (in the anamnesis of cholecystectomy).

**Choledochous duct**- is not enlarged, 0.4 cm in diameter; the lumen is clear.

**Pancreas**- is not enlarged, 2.2- 1.0- 2.1cm, even contour, unclear in the area of the head and the tail (due to flatulence). The echogenicity is moderately increased. Homogeneous echostructure. No nidi detected. The Wirsung canal is not dilated.

**Spleen**- is not enlarged, 12.1 x 4.5 cm, smooth contours, clear. The echogenicity and echostructure are regular. No nidi identified.

The abdominal lymph nodes were not visualised.

No loose fluid in the abdominal cavity was identified.

The quality of visualisation was serevely diminished due to flatulence.

**SUMMARY**: Diffuse changes of the pancreas.

[MRI Conclusion](#Fourth)

[Date: 10/13/2019 (13.10.2019)](#Fourth)

Date: 13.10.2019

Area of investigation: Magnetic resonance (MR) cholangiography

The patient’s condition after the cholecystectomy on 13.08.2019

On the set of MR- cholangiography intrahepatic bile ducts are assymetric, R<L; width under 0.3 and 0.45cm, without filling defects. Magnification of the pattern of the interlobular ducts in the area of the SIV segment and the left upper lobe was determined with the width under 0.6 cm.

The general hepatic duct was not visualised. The cystic duct is located typically, is twisted, has a width of under 0.35 cm, without filling defects.

The choledochous duct has a width of under 0.5cm, a length of approximately under 6cm. No concrements in the lumen.

The pancreatic duct was traced along the whole length, has a width of under 0.23cm, no filling defects, has a twisted passage.

Focal changes in SIV are explicitly present in the zone of scanning in a form of heightened signal on T2WI with unclear and uneven contours. Tortuosity and dilatation of intrahepatic bile ducts were determined in this area.

CONCLUSION: The patient’s condition after cholecystectomy. MR-data on choledocholithiasis, biliary hypertension and pancreatic hypertension was not collected.

MR-picture of focal changes in SIV of the liver with the presence of twisted and dilated biliary ducts in this area.

Recommended: a consultation with a surgeon, MRI and a CT scan after the appointment (with contrast enhancement if required)

[Autoimmune Tests](#Fifth)

[Date samples collected: 10/15/2019 (15.10.2019)](#Fifth)

Date of collection of the samples: 15.10.2019

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Investigation | Results | Units | Reference values | Comments |
| Autoantibodies for autoimmune liver pathology, blot analysis | **Refer to the comments** |  |  | Antibodies to SLA/LP, LC-1, LKM-1, M2-3E, Sp-100, PML, gp210, PDC-AMA-M2, SSA/Ro-52 not detected.  |
| SLA/LP | **negative** |  | negative |  |
| LC-1 | **negative** |  | negative |  |
| LKM-1 | **negative** |  | negative |  |
| gp210 | **negative** |  | negative |  |
| PML | **negative** |  | negative |  |
| Sp100 | **negative** |  | negative |  |
| M2-3E | **negative** |  | negative |  |
| AMAM2 | **negative** |  | negative |  |
| SSA/Ro-52 | **negative** |  | negative |  |
| ANCA IgG, indirect immunofluorescence | **<1:40** | titer | <1:40 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Investigation | Results | Units | Reference values |
| Amylopsin | **31** | U/L | 8-51 |
| Lipase | **42** | U/L | 8-78 |

**Summary**

No antibodies to antigens for autoimmune diseases were detected.

Medical report

A negative result for the presence of anti-neutrophil cytoplasmic antibodies (ANCA of the IgG class) with the help of immunofluorescence rules out the diagnosis of active granulomatous vasculitis and decreases the likelihood of nonspecific ulcerative colitis and primary sclerosing cholangitis. In case of high probability of granulomatous vasculitis a test for detection of antibodies to proteinase-3 and myeloperoxidase may be recommended. Determining the type of fluorescence, be it cytoplasmic/ perinuclear/ atypical (c-ANCA/ p-ANCA/ a-ANCA), is only possible for a positive value of ANCA in the results.

[CT Scan Conclusion](#Sixth)

[Date: 10/18/2019 (18.10.2019)](#Sixth)

**Effective dosage**: measured 22.7 mSv.

**Preliminary diagnosis for investigation**: a mass in the liver

**THE PROTOCOL OF INVESTIGATION**: During the multi-layer spiral CT of the abdominal cavity and the retroperitoneal space, which was conducted before and after the intravenous bonus introduction of the contrast medium (Optiray 300mg- 100ml, rate of introduction: 3.5 mL/ sec), it has been established that:

The patient’s condition after the laparoscopic cholecystectomy on 13.08.2019

The liver is not enlarged in terms of its size and dimensions. The intact parenchyma density is within the normal range of safe values. Hypodense (+35…+40HU), hypovascular nidi (dimensions: 49mm x 30mm (SVIa, b, SII), 22mm x 24mm (SIVa) and 16mm x 13 mm (SIII)) within the axial plane are visualised in the left lobe of the liver. The outlines of the nidi are uneven and not clear-cut (non-distinct). It should be noted that the unclear accumulation of the contrast medium is present in the peripheral areas of the nidi in the delayed (for 5 min) phase of contrast enhancement. The intrahepatic bile-ducts of the left lobe of the liver are unevenly expanded to 6mm and are twisted. The intrahepatic bile-ducts of the right lobe of the liver and the extrahepatic bile ducts are not distended and not bulging. The lumen of the portal vein is not dilated; is contrasted homogeneously.

The gall bladder is not visualised (was surgically removed). The gall bladder bed contains hyperdense stitch material and fibrous thickening.

The pancreas is not enlarged; is contrasted homogeneously. Parapancreatic fibre is not infiltrated. The Wirsung canal is not dilated.

Dimensions of the spleen: craniocaudal dimension- 104mm. diameter- 115mm, thickness- 49mm, spleen index- 586 (N= under 480); homogeneous structure. Additional segment of the spleen- under 10mm.

Adrenal glands- no abnormalities.

Kidneys are of a regular size, shape and location, within the norm. The parenchyma is of sufficient thickness. Corticomedullary differentiation remains. The calices-pelvis system of the kidneys is not enlarged. Storage and release of the contrast medium is symmetric and timely. The ureters are fragmentarily contrasted in terms of scanning and are not dilated. Paranephric fibre with no abnormalities. Individual lymph nodes with the dimensions of under 19mm x 12mm in the axial plane, with hypodense centres of moderate size, are apparent above the body of the pancreas, near the porta hepatis.

No other enlarged lymph nodes, loose fluid in the abdominal cavity or the retroperitoneal space have been identified. Calcifications in the walls of the abnominal aorta and the roots of its branches, iliac arteries.

No destructive and osteoblastic bone changes have been detected in the zone of scanning. Degenerative dystrophic disk changes in the spine within the area of investigation. Sphenoid deformation of L4 vertebra, with its decrease in height by half. Schmorl's nodules (including large ones) of individual vertebrae.

No infiltrative changes in the bottom visible lung sections. Fibrotic nidus in S10 of the left lung up to 3mm. Pleurodiaphragmatic adhesions on both sides.

**SUMMARY**: CT-scan of the focal damage of the left lobe of the liver together with the expansion of the intrahepatic bile-ducts and moderate lymphadenopathy, which is more commonly and characteristically signifies manifestation of neoplasia (cholangiocellular Ca?). Moderate splenomegaly. Additional segment of the spleen. The patient’s condition after cholecystectomy. Atherosclerosis of the aorta, iliac arteries. Degenerative dystrophic disk changes in the spine within the area of investigation. Sphenoid deformation of L4 vertebra.

Recommended: to consult an oncologist.

[Tumor Markers](#Seventh)

[Date: 10/22/2019 (22.10.2019)](#Seventh)

|  |  |  |  |
| --- | --- | --- | --- |
| Name of the test | Results | Units | Reference intervals |

Oncomarkers

|  |  |  |  |
| --- | --- | --- | --- |
| Alpha-fetoprotein (AFP) | 5.63 | ng/mL | 0-8.8 |
| Carcinoembryonic antigen (CEA) | **4609.34** | ng/mL | 0-3 |
| CA19-9 | **39.15** | IU/ mL | 0-37 |

Comment: the first result for CEA exceeds the boundary of linear regression.

The final result was acquired through the dilution of the probe for 10 times.

[Positron-Emission Tomography Conclusion](#Eighth)

[Date: 10/24/2019 (24.10.2019)](#Eighth)

|  |  |
| --- | --- |
| **The scale of investigation:**  | PET/ CT of the whole body |
| **Radiopharmaceutical:** | 18F- -FDG |
| **Dose of the radiopharmaceutical introduced:** | 207.7 MBq |
| **Summative effective dosage:**  | 19.8 MSv |
| **Tomograph PET/ CT: “Discovery 690”, GE, CT was conducted in the conditions of peroral (trazograph 76%- 20ml) and intravenous contrast (Omnipaque-300, 100ml, 2.5 mL/ sec, delay- 45 sec)** |  |

On a series of tomograms of the head area (frequently from the orbitomeatal line) and neck, eyebulbs, the optic nerve and the retrobulbar space have not been detected. No pneumatisation of paranasal sinuses has been identified. No abnormalities abnormalities in salivary glands. No modifications in size, shape and structure of the thyroid gland. Peripheral lymph nodes not enlarged- metabolically inactive. Physiological accumulation of the radiopharmaceutical in the cortex, oral pharynx and nasopharynx.

On a series of tomograms of the organs of the thorax in the parenchyma of both lungs, individual dense nidi up to 2-3mm in length are visible. No infiltrative and metabolically active changes were identified in the lung parenchyma. No dysfunction associated with the lumus and patency of the trachea, main and lobar bronchi. The mediastinum is displaced. The intrathoracic lymph nodes are not enlarged, are metabolically inactive. No fluid in the pleural cavity and camera cordis. Peripheral lymph nodes are not enlarged- metabolically inactive. No voluminous formations in soft tissue of the thoracic wall. Physiological accumulation of the radiopharmaceutical in the myocardium of the left ventricle.

On a series of tomograms of the abdomen and the retroperitoneum, the liver is not enlarged in size (Oblique Y-Dimension of the right lobe- 164mm), the parenchyma is inhomogeneous due to the presence of metabolically active formations in the IVa, IVb, II, III segments. These formations have unclear contours and a tendency towards fusion, and are located mainly along the passage of intrahepatic bile ducts (which are expanded to 5mm) along on the left lobe. The dimensions of the largest formation are under 39x 43 x 50mm with SUV= 10.9. Metabolically active lymph nodes (with the dimensions of up to 21x13mm with SUV=5.4) have been measured near porta hepatis. The patient’s condition following cholecystectomy. The pancreas is not enlarged, is of a lobular structure. The pancreatic duct is not enlarged. The parapancreatic cellulose is not densified. No abnormalities in the spleen. A formation with the diameter of up to 8mm with SUV=3.6 has been found in the location of fusion of crura of the left adrenal gland. The right adrenal gland displays no conclusive signs of pathological changes. The kidneys are located with no abnormalities; they have clear and even outlines. The pelvicalyceal systems are not enlarged. No roentgenopaque concrements have been identified. No loose fluid in the abdomen. Physiological accumulation of the radiopharmaceutical in the walls of the stomach, the pelvicalyceal systems, along the lumen of the large intestine.

On a series of tomograms of the pelvic organs, insufficient filling of the bladder has been identified. The size, dimensions, shape and structure of the prostate gland have not changed. No abnormalities in the seminal vesicles. The pelvic and peripheral lymph nodes are not enlarged and are metabolically inactive. No loose fluids. Physiological accumulation of the radiopharmaceutical in the bladder, along the distal aspect of the large intestine.

On a series of tomograms of the skeletal system, no signs of osteoblastic or osteolytic changes were present. No pathological accumulation of the radiopharmaceutical was identified.

**Conclusion**: PET/ CT- symptoms of metabolically active liver formations, metabolically active abdominal lymph nodes.

Moderate hypermetabolism of F-18 in the left adrenal gland.