INTERNATIONAL MULTIDISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT
SJIF 2019: 5.222 2020: 5.552 2021: 5.637 2022:5.479 2023:6.563 2024: 7,805
eISSN :2394-6334 https://www.ijmrd.in/index.php/imjrd Volume 11, issue 11 (2024)

DIFFERENT ETIOLOGY SPLENOMEGALY CAUSES, DIAGNOSIS AND COMPARATIVE DIAGNOSTIC

N. A. Tillaboyev, Z.A. Ergasheva

N. Andijan State Medical Institute, Yu. Atabekov St., Building 1, 170127, Andijan, Uzbekistan
tillaboyev12@gmail.com

Abstract: One of the main causes of splenomegaly syndrome is the liver is a diffuse disease. Currently, the incidence rate of this pathology is constantly increasing in the world, which is a major socio-economic problem. When looking at the data obtained by European researchers, among the causes of splenomegaly in the first place, there is clear information about the changes in the liver parenchyma that develop as a result of viral hepatitis B, C and D. The main causes of disability and death should be considered liver complications under the influence of etiological factors, which in turn requires the development of new non-invasive diagnostic methods and dynamic monitoring of this group of patients.

Keywords: splenomegaly, viral hepatitis, hypercoagulation, ADTI clinic, decompensation, right ventricle, vitamin, mononucleosis, IgM, HBV, DNA, anti-Hbcore.

1 Introduction

Splenomegaly is an increase in the size of the spleen compared to the norm. Splenomegaly is not an independent nosological unit, but occurs against the background of another pathological process, as a secondary disease. The weight of the spleen is usually about 100-150 g, and it cannot be felt when palpated, the organ can be identified by palpation when it is enlarged 2-3 times. The prevalence is 1-2% among the general population. Splenomegaly can occur in people of any age. It affects both men and women equally.

2 Literation review

Splenectomy plays an important role in the complex treatment of patients with diseases of the blood system (27, 51, 57, 114). As a pathogenetically based surgical intervention, removal of the spleen allows stable remission and complete recovery in certain pathological conditions (12, 62, 74, 99). The first operations for diseases of the blood system began to be used from the middle of the 20th century. The accumulated experience of these interventions has shown that, depending on the nature of the pathology, surgical intervention significantly affects the outcome of the disease, therefore, the search for ways to minimize surgical damage has contributed to the development of endovascular interventions to stop blood flow through the splenic vessels, and with the advent of endovideoscopic techniques - the laparoscopic spectrum has improved. this was first used in 1988 (27,34, 38,117). To date, the technique of laparoscopic splenectomy is sufficiently developed. However, the number of postoperative complications exceeds 30% and does not show a decreasing trend (27,41,25,53,118,193,209,229).

Analysis of the causes of complications shows that they are associated with the specific characteristics of diseases that lead to the development of hemorrhagic and hypercoagulable syndromes, acute adrenal insufficiency, pneumonia, pleurisy and other diseases. The most common surgical complications of splenectomy are acute pancreatitis, intra-abdominal bleeding,

and subphrenic abscess. Due to obesity caused by long-term previous hormonal therapy and the development of Itsenko-Cushinga syndrome, as well as patients with large organ sizes, there is a category of patients in whom access to the spleen and surgery under visual control is difficult (15). In such patients, the spleen is located very deep, and therefore the laparotomic approach, even with the most cost-effective surgical technique, causes damage, which creates the basis for the development of complications after the operation. Accumulating experience of laparoscopic splenectomy has confirmed the possibility of a safe intervention and a decrease in the number of postoperative complications (93). These cases became the reason for studying the indications and possibilities of the laparoscopic method of splenectomy and further improvement of the technique and methods of its implementation in patients with diseases of the blood system.

3 Material and methods of research

From 2018 to 2020, 50 patients with splenomegaly syndrome and 20 patients with splenic pathology were examined in the therapy department at the ADTI clinic. Patients were admitted to the departments of gastroenterology, surgery and infectious diseases. These patients: collection of complaints (characteristics of complaints are based on questionnaires received in the clinic of internal and surgical diseases), collection of anamnesis, complete clinical examination, analysis of laboratory and instrumental data.

Additional criteria for patients in the study are:

- if the patient has an enlarged spleen;
- the patient has a pathology of the spleen;
- liver cirrhosis availability;
- viral etiology chronic hepatitis availability ;
- alcoholic and no alcohol of steato g hepatitis availability;
- presence of infectious mononucleosis;
- of the patient to research consent.

The following diagnosis placed patients from research excluded:

- decompensated coagulopathy;
- liver veins age of thromboembolism;
- D, E and others with together has been viral of hepatitis availability;
- right ventricle heart deficiency and heart fibrosis

EF less than 45% has been liver, as well as XSN II B FKIII;

- obstructive jaundice;
- sharp toxic and viral hepatitis;
- B and C is viral hepatitis has been HIV infection in patients;
- sharp spiritual disease

At the research stage, all patients were given general detoxification therapy, sick patients, 5% glucose solution, hemodesis, enderodesis. The main group of drugs were hepatoprotective substances in pharmacological preparations: Heptral, Karsil, Khofitol, Fosfogliv, Essential; the second group of drugs were diuretics: veroshpiron, furosemide, lasix, triampur, diacarb; in the presence of portal hypertension, treatment with non-selective β-blockers was carried out: anaprilin, obzidan; in the presence of pancreatic enzyme deficiency, the following were used: Creon, pancreatin, mezim; supportive vitamin therapy: B vitamins (B1, B6), vitamin E, vitamin A; in severe cases of liver failure, glucocorticosteroids were taken: prednisolone, dexamethasone; if parenteral nutrition is necessary, nutritional mixtures are used in blood: amino acid solutions, fat emulsions, albumin, fresh frozen plasma, erythrocyte mass. In the group of patients with viral hepatitis B and C, interferons were used: Reaferon Intron-A, Pegasis, Pegintron; in some cases,

together or separately with nucleoside / nucleotide analogues: Zefiks, Baraklud, Sibivo. Disinfectant solutions were used in the treatment of infectious mononucleosis, local treatment was carried out in angina: Miramistin, Chlorhexidine; in the case of bacterial complications - antibacterial therapy, which was carried out depending on the sensitivity of the bacterial agent.

4 Results and discussions

The distribution is as follows: 41 men (58.9%) and 29 women (41.1%). The following information is available on age distribution: age groups from 28 to 69 years (mean age 45.52 ± 8.93 years). As for the living conditions, the situation of the patients is almost the same, but we divided them into those who live in the city, which is 72%, and those who live in the countryside are 28%. Information about the above distributions is presented in Table 1:

Table 1 – Distribution of patients in the study group by age and gender

Group	Average age	Men		Women		Everything	
		abs .	%	abs	%	abs	%
1 g of flour JNAKB (n=11)	45.03±8.86	6	8.7	5	7.1	11	15.8
2 g of flour JAKB (n=13)	47.03±8.76	11	15.7	2	2.7	13	18.4
3 g of flour V G(V,S) (n=11)	50.70±8.13	8	11.4	3	4.2	11	15.6
4 g of flour JTs (n=10)	44.88±6.95	6	8.7	4	5.7	10	14.4
5 g of flour UMN (n=12)	40.31±8.84	4	5.7	8	11.4	12	17.1
6 g of flour FTPB (n=13)	42.31±8.84	6	8.7	7	10	13	18.7
Total:	45.52±8.93	41	58.9	29	41.1	70	100

When planning the study, we created a number of criteria, according to which we selected patients for control group No. 1, such a criterion:

- 18 to 27 years old;
- provide reasonable consent for data processing and inquiry;
- enlargement of the spleen or absence of ultrasound signs in local cells;
- absence of anamnestic symptoms of other diffuse liver diseases.

The surveyed patients included 41 men (58.9%) and 29 women (41.1%). The average age of the patients was 23 ± 3.76 years.

The control group included patients with syndrome #2 (n = 20) and splenomegaly who underwent splenic shear wave ultrasound elastography with a retrospective assessment of the stiffness of the splenic parenchyma and an evaluation of the effect of conservative treatment on the obtained data.

The first group of the main group included patients with JNAK (n = 11). As mentioned above, this diagnosis was confirmed by clinical and laboratory, as well as instrumental studies. It should be noted that during the examination it was necessary to exclude other pathologies not included in this cohort: ABP, CVHC and/or CVHB, drug liver damage, Wilson-Konovalov disease, autoimmune hepatitis, hemochromatosis; also, if the patient had complications of the main disease, such as "steatosis", the patient was excluded from the study.

Concomitant pathologies that did not exclude patients from this group are: arterial hypertension of various severity (8 patients (11.4%)); hypothyroidism, which according to a number of studies may affect the development of the disease (5 patients (7.1%)); increased body weight (4 patients (5.7%)) and obesity (BMI > 25 kg/m2 (8.7%) in 6 patients and BMI > 30 kg/m2 (7.1%) in 5); type 2 diabetes mellitus with target HbA1C less than 6.5% and glucose in venous plasma higher than 6.1 mmol/L (9 patients (12.8%)); dyslipidemia (65% of patients with low HDL cholesterol, 67% with increased triglycerides).

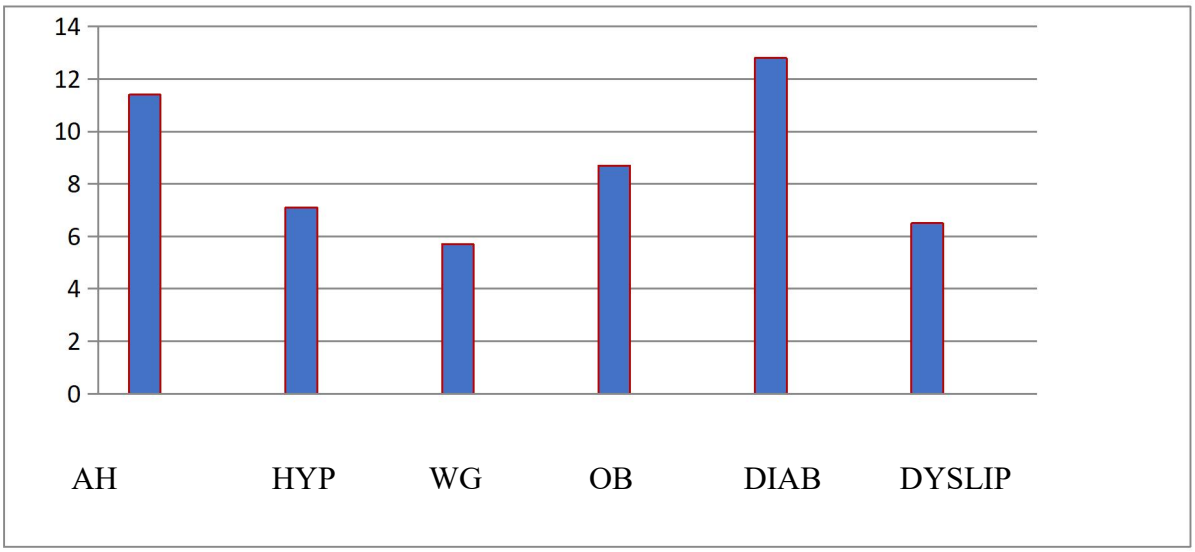

Diagram 1. The incidence rate of splenomegaly in non-alcoholic liver disease

The second group of patients with JAC (n = 13). The diagnosis was determined based on the analysis of the patient's anamnesis, alcohol history and clinical manifestations of the disease with the advice of a narcologist and/or toxicologist.

A narcologist and/or toxicologist confirmed that the amount of alcohol was high, and the stage and course of the disease were determined accordingly:

- initial ("zero") stage: this stage is characterized by:

drunkenness; elevation of mood is detected both in a drunken state and in a sober state; in case of insomnia, there is no negative desire for alcoholic beverages;

- the first stage (lasts 1-4 years): in this stage, addiction to alcoholic beverages (change in tolerance) begins, which is characterized by a decrease or "turning off" of the reflex reflex and the appearance of the ability to drink alcohol in large enough quantities, which leads to control of the dose indicates loss. alcoholic beverages; at this stage, patients develop a pathophysiological craving for alcoholic beverages, which is manifested by a psychological dependence on alcohol use;

- the second stage (lasts 5-15 years): in this stage, patients experience a long-term and clear cessation after taking large doses of alcohol, which is called a "plateau of tolerance" that appears after each use. on mental and physical addiction to alcohol; in a large percentage of cases, hallucinatory and alcoholic psychosis may develop;

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- the third stage (lasts more than 15 years): in this stage, tolerance to alcohol decreases, alcoholism and regular drinking appear; a specific syndrome with a specific clinical presentation; at this stage, the patient's personality deteriorates and his psyche changes.

Clinical manifestations of the disease were determined in the second group of patients in the analysis of anamnesis, records of narcologists and/or toxicologists.

the following stages of alcoholism: initial, first, second or third stages confirmed by the alcohol history of the patients presented in Figure 2.

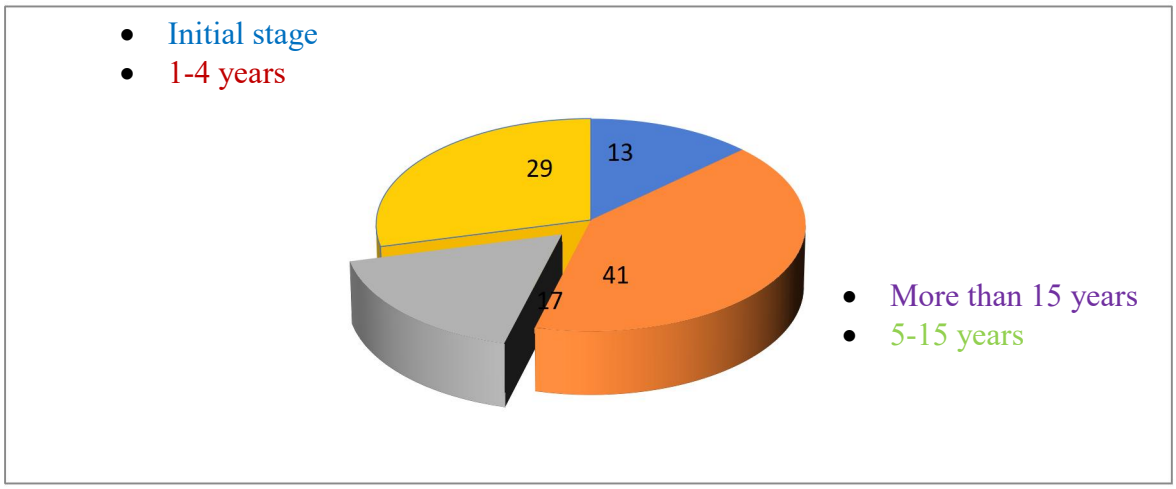
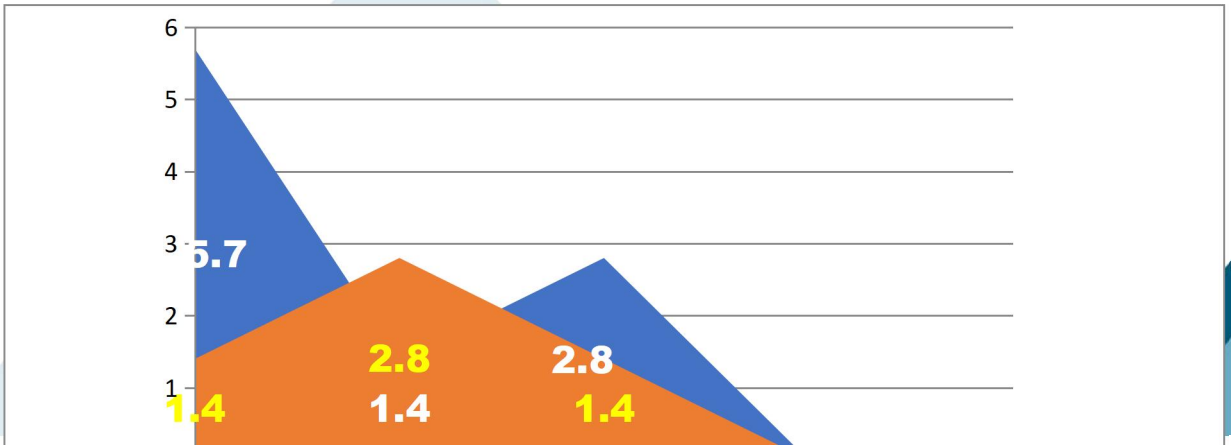


Diagram 2. Incidence of splenomegaly in alcoholic liver disease

Also, the examination plan for patients in this group included an examination by a neurologist. According to his conclusion, we found the following neurological abnormalities: memory impairment in 2 people (2.8%); myopathies and polyneuropathy were found in 2 (2.8%) and 3 (4.2%) patients; according to the history and complaints, cramps in the lower extremities were found in 1 person (1.4%). Alcoholic delirium was detected in 3 people (4.2%).

The third group consisted of patients with liver cirrhosis (n = 11). The group included 5 (7.1.5%) patients with alcoholic liver cirrhosis (4 (5.7%) men and 1 (1.4%) woman); 3 (4.2%) patients with JC of viral etiology (1 (1.4%) male and 2 (2.8%) female); 3 (4.2%) patients with mixed (alcoholic-viral) cirrhosis (2 (2.8%) men and 1 (1.4%) woman). The obtained data are shown in Figure 3.



alcoholic liver cirrhosis **Liver cirrhosis of viral etiology** **mixed liver cirrhosis**

Diagram 3. The incidence rate of splenomegaly in cirrhosis of the liver

According to the increase of JTs, patients were divided by us according to the Child-Pew world classification: Child-Pew A (compensated JC) - 4 patients (5.7%); child-Pugh B (subcompensated CP) – 3 (4.2%) patients; child-Pugh C (decompensated CP) - 3 (4.2%) patients; These data are presented in Figure 4.

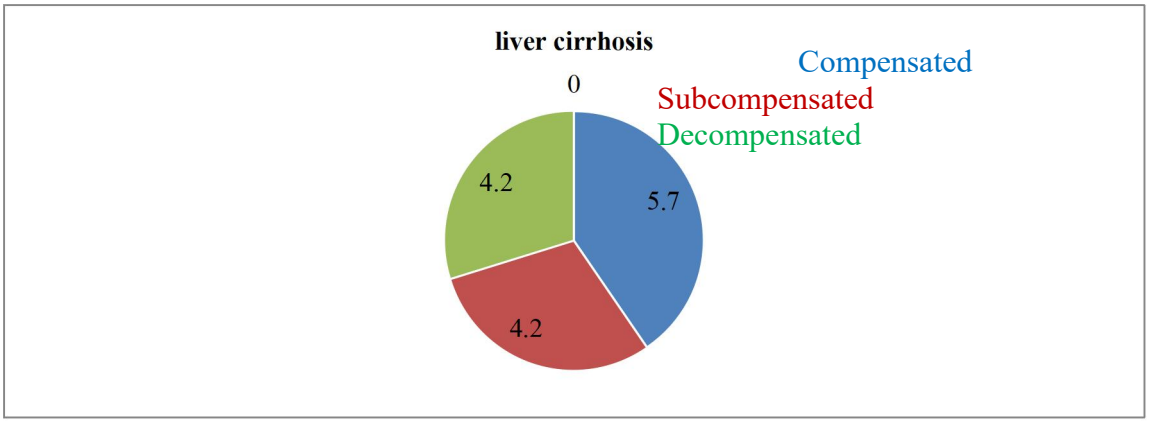


Diagram 4. Incidence of splenomegaly in severe liver cirrhosis

On the basis of the center for the fight against AIDS in Andijan, a blood test was conducted for the presence of specific antibodies and viral hepatitis B and C antigens, the methods for determining these indicators are as follows:

• using different systems of laboratory diagnostics: anti- HCV, HbsAg, IgG, anti-HIV, anti-Hbcore IgM;

• reverse transcription and polymerase chain reaction, which provides both qualitative and quantitative determination of DNA and HBV-RNA; and HCV genotyping was performed.

The main criterion in researching patients for the presence of markers of viral hepatitis V and C is in the blood serum, for viral hepatitis B: IgG, HbsAg, HBV DNA, anti-Hbcore IgM, gde HbeAg, HbsAg, anti-Hbcore IgM, HBV DNA, anti-Hbcore in patients with active viral replication phase and in patients with XVGV, α anti-Hbe, HbsAg, anti-Hbcore IgM, HBV-DNA, anti-Hbcore. Viral hepatitis C: For HCV-RNA and anti-HCV, it should be noted that these indicators were also determined during the replication phase.

In the patients we examined, we determined the average viral load, which is as follows: for viral hepatitis B – 2145.15±559, 52 ME/ml;; for viral hepatitis C – 3690351.52±57213.20 ME/ml. Also, during the examination, we determined the status of viremia in patients of this group, which corresponded to the following: low level for CVGC - 28% of patients, high level - 61% of patients.

In patients with CVGB and detectable HbsAg, viral load (greater than 2000 IU/ml) was 25%, and in 75% of patients with CVGB the level was less than 2000 IU/ml. In our study, 1 virus genotype was detected more frequently in patients (83.1%).

The fifth group included 12 patients with infectious mononucleosis. When conducting the Paul-Bunnell-Davidson reaction, 2 (2.8%) patients had a heterophile-positive form of the disease (3 (4.2%) men and 2 (2.8%) women), 4 (5), 7%) heterophile disease - patients with a negative form (1 (1.4%) women).

The sixth study group included patients with active splenic pathology, including 13 with focal splenic pathology, including 4 (5.7%) patients with splenic abscess (2 (2.8%) men and 2 (2.8%) women).)), 5 (7.1%) people with splenic cysts (2 (2.8%) men and 3 (4.2%) women), 2 (2.8%) patients with lymphosarcoma (1 (1.4 %)) men with splenic hemangioma and 1 (1.4%) women) and 2 (2.8%) patients (2 men and 1 woman). Information on the distribution of this group of patients is presented in Figure 5.

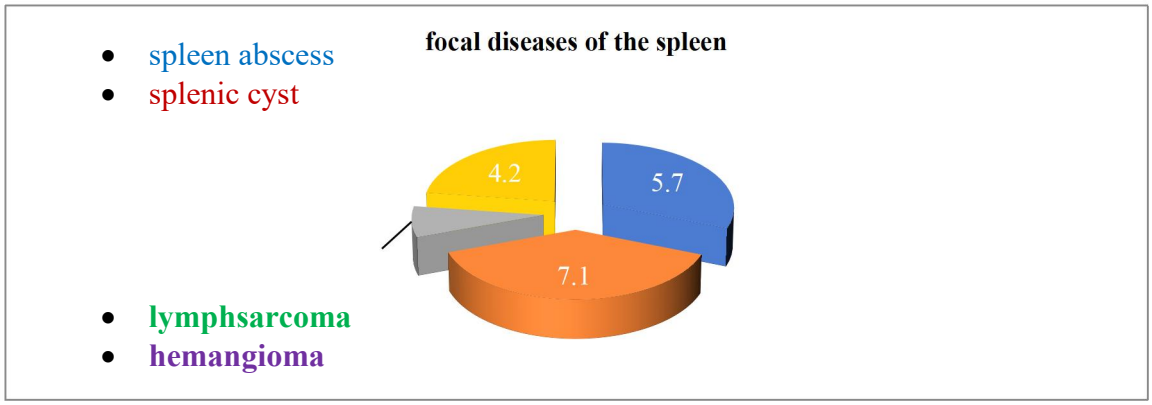


Diagram 5. Distribution of indicators in focal diseases of the spleen in examined patients

Our patient examination was carried out in several stages:

I stage

Questionnaire:

- complaints (general weakness, burning sensation in the mouth, dry mouth, abdominal discomfort, heaviness, abdominal enlargement, abdominal pain, etc.);

- anamnesis (duration of the disease, ways of transmission, consumption of alcohol, etc.);

- combined pathology (endocrinologist, infectious disease specialist, gastroenterologist, toxicologist, narcologist, surgeon, etc. consultations).

II stage

General examination to determine the general condition of the patient (mild, moderate and severe).

III stage

Percussion and palpation of the front wall of the abdomen (determining the boundaries and sizes of internal organs, liver and spleen; auscultation of the lungs and abdomen).

IV stage

Determination of laboratory status (OAK, OAM, biochemical blood test, signs of viral hepatitis, etc.).

Stage V

Carrying out fibrogastroduodenoscopy (according to the instructions and to detect complications, in particular, varicose veins)

VI stage

Advanced ultrasound examination:

- ultrasound examination of the abdomen in B-mode;

- v. Color and power Doppler map with blood flow assessment by. porta and v. lienalis.

- shear wave elastography, compression elastography of the liver and spleen, as well as biopsy of the liver and spleen under ultrasound (if indicated, as well as for differential diagnosis).

After reducing stages I and II, we got the following information:

• pain syndrome (56%);

• feeling of discomfort and heaviness under the right rib (63%);

• heaviness and discomfort under the left rib (12%);

• that 90% of them have dyspeptic syndrome: nausea in 45%, bloating and flatulence in 33%, aversion to food and, as a result, reduced appetite in 54%;

• asthenovegetative syndrome (in the form of decreased work, restlessness, drowsiness) was detected (62%);

• high level of fatigue and general weakness (64%);

• A significant decrease in body weight, more than 7-10 kg per month (53%).

• Yellowing of the skin and sclera in (14%) and (42%) (this group of patients mainly consists of the group with LC and ABP);

• skin manifestations of the disease - telangiectasia in 29 people - (15%) (this cohort consists of patients with LC);

• Ascites and dilatation of the saphenous veins of the anterior abdominal wall, respectively (12%) and (9%) respectively (this cohort mainly consists of LC class B-C patients). Considering the high prevalence of hepatic encephalopathy with stages B and C according to Child-Pugh, our patients were examined by a neurologist for this pathology according to laboratory and instrumental diagnostic methods, taking into account the clinical presentation and the severity of liver cell failure. in LC class patients (12.5%); encephalopathy of stages I and II in patients of LC class (31.3%); Class II encephalopathy in patients of LC class (15.6%); Grade III hepatic encephalopathy was detected in patients of LC class (12.5%).

Abdominal palpation and percussion were performed by V.P. Obraztsov and N.P. Strasgesko, here we found enlarged liver and spleen in (68.6%) and (70.2%) patients, respectively. (31.4%) and (28.8%) patients, due to the complexity of determining the size of the liver and spleen by palpation and percussion (the progress of the disease, the presence of obesity, ascites, cirrhosis of the liver), this research method was poorly informed. At the same time, (2.1%) patients (without ascites and obesity) had a decrease in liver volume.

When conducting a general analysis of blood: erythrocytes, hemoglobin, leukocytes, EChT, patients were distributed as follows (Table 2).

2 - table. General blood analysis indicators of the examined patients

General blood analysis	1 group JNAKB (n = 11)	2 groups JABBK (n = 13)	3 groups JTsBKB (n = 11)	4 groups VGVSBKB (n =10)	5 groups YuMNBKB (n = 1 2)	6 FTPBB (n = 1 3)
erythrocytes , _ 1012/l	4.49 ± 0.17	4.17 ± 0.16	3.37 ± 0.14	4.39 ± 0.12	4.35 ± 0.14	4.12 ± 0.02
hemoglobin, g / l	139.43 ± 3.12	128, 24± 1.95	103.24 ± 3.03	141.01 ± 1.76	139.44 ± 1.39	140.1 ±0.06
Leukocytes , _ 109/l	7.97 ± 2.41	6.98 ± 3.14	5.71 ± 3.02	7.87 ± 3.06	10.1 ± 1.9	7.5 ± 2.6
Platelets , _ 109/l	239.55 ± 8.33	267.19 ± 6.82	137.89 ± 8.22	± 256.01 9.49	256.12 ± 15.6	209.59 ± 23.6
EC , mm/ch	8.9 ± 1.91	19.75 ± 4.02	24.32 ± 2.00	9.17 ± 0.37	15.2 ± 1.69	9.2±0.7

In the analysis of the obtained data, we found the form of anemia and thrombocytopenia in patients with JTs group, and this disease increased depending on the disease class. In turn, an increase in the number of leukocytes was found in the patients of the YuMN group .

Analysis of data on liver enzymes, especially transaminases, shows non-specificity and low information content in the differential diagnosis of these cases: CVG (in 76% of men and 70% of women), JAK (in 100% of all patients), JNAK (in 98% of all patients)). The increase in ALT and AST was significant, and liver transaminases were statistically increased by 20% and 10% in the MN and OP groups, respectively.

Analyzing the data from the coagulograms of the patients in the main group, we found that clear changes were observed in the patients in the JTs group: 100% of women and 95% of men - an increase in PTT; PTI reduction was observed in 99% of women and 92% of men. It should be noted that changes in coagulogram parameters were mainly detected in the group of patients with JC, and the largest deviation from the norm according to Child-Pugh data was found in JC classes B and C.

5 Conclusions

Regarding the descriptive statistics shown for the entire amount of data described above, as well as the mean with standard deviation (M±SD) in the text and table. Estimates of normality were calculated using the Shapiro-Wilk and Lilliefors tests, and indicated that all parameters were not normally distributed (results were considered statistically significant at the p-0.05 level).

Analyzing all of the above, we came to the conclusion that the greatest changes in the liver related to liver enzymes, GGTP and ALP, in the group of patients with blood disease, patients with cirrhosis of the liver are identified, which leads to the appearance of significant fibrotic changes in the liver. occurs as a result of hepatic venous congestion and venous congestion.

1. Autoimmune processes are treated with immunosuppressive hormonal drugs. "Prednisolone" effectively relieves inflammation and controls immunity.

2. Cytostatics are used for the treatment of oncological and hematological diseases - "Methotrexate", "Degranol", "Benzotef", as well as radiation therapy. If necessary, patients undergo a bone marrow transplant.

3. Symptomatic treatment consists of detoxification, anti-inflammatory drugs, multivitamins, painkillers.

4. If the enlarged spleen does not cause discomfort to the patient or cause other problems, traditional medicine can be used.

6 Acknowledgments

The scientific article is self- financed, there is no conflict of interest of the co-authors. This article is approved and recommended for open publication by the ethical committee of the Andijan State Medical Institute (protocol No. 2 dated February 20, 2024).

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