LIVER BIOPSY IN THE EVALUATION OF THE IN LIVER FIBROSIS IN CHRONIC VIRAL HEPATITIS C

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Keywords: *chronic viral hepatitis C, hepatic fibrosis, hepatic biopsy, serological markers*

Abstract: *Chronic viral hepatitis C represents a problem of world public health. One of the most important issues is the hepatic fibrosis, which can be evaluated by histological exam of the hepatic fragment obtained by hepatic biopsy or by the study of the serological markers.*

Cuvinte cheie: *hepatită cronică virală C, fibroză hepatică, puncţie biopsie hepatică, markeri serologici.*

Rezumat: *Hepatita cronică virală C reprezintă o problemă de sănătate publică mondială. Unul din procesele fiziopatologice esenţiale este reprezentat de fibroza hepatică ce poate fi evaluată prin examen histologic al fragmentului bioptic obţinut prin puncţie hepatică dar şi prin analiza diferiţilor markeri serologici.*

In the era of technological progress and development of molecular tests, liver biopsy continues to be the "gold standard" for assessing liver disease (1). Be considered as hepatic first aspiration was performed by Paul Erlich in 1883 (2) and the first percutaneous liver biopsy for diagnostic purposes in 1923. Biopsies making machinery was improved gradually becoming an important step in assessing liver damage. Fragment obtained by liver biopsy is subject to macroscopic examination, optical microscopy, the electron microscope examination, techniques of immunohistochemistry, special staining, DNA hybridization studies, microbiological examination.

Liver biopsy is of indubitable value in assessing viral hepatitis C. It may confirm the diagnosis of chronic hepatitis C, but may reveal other pathologic conditions that steatohepatitis (alcoholic or nonalcoholic), iron loading syndromes suggestive of hemochromatosis, or can demonstrate the presence of blood suggestive aspects of alpha 1 antitrypsin deficiency (3).

It can also reveal the presence of dysplasia or hepatocellular carcinoma.

It is'n a strong correlation between liver tests, especially ALT and AST value and the severity of liver disease, persons with consistently normal values being allowed to active disease in terms of histology.

The presence of fibrosis is an indicator of progressive disease and of the need for treatment (4,5).

In addition to contributing to clinical decision making biopsy can be an essential part of investigations into cellular and molecular events underlining the histological changes (6).

By examining the biopsy fragment liver alterations are carried out assessment, called "grading" and the degree of liver fibrosis "staging", which can be established only by histopathological examination.

INTERPRETATION OF TH LIVER BIOPSIES

Besides the detailed structure is aimed at describing changes in terms of liver inflammation and liver fibrosis secondary to liver tissue injury.

For better coordination between different pathologists in their analysis and clinicians, over time have developed several measurement systems, both transformations that generate *grading (grading)* and fibrosis, leading *staging (staging).*

For each patient it is possible that the total score of graduation to be composed differently, such as two patients with identical scores may have different histopathological changes, unable to rule out the detailed description thereof.

Staging of liver fibrosis degree generated by providing data on the structural progression of the disease, the degree and speed of development.

Assessment system developed by **Knodell et al,** (1981) (7) is a semi-quantitative assessment by analyzing the following aspects: 1) periportal necrosis and bridges, 2) intralobulară necrosis, 3) portal inflammation, 4) fibrosis.

In case of chronic hepatitis C virus using this type of scoring has the disadvantage that it is not relevant for heterogeneous liver lesions, are not analyzed lymphoid follicles and is taking into account global, both activity and fibrosis.

In 1991, **Scheuer** has developed a system of assessment of fibrosis as a score ranging from 0-4, ranging from normal to cirrhosis.

Ishak et al. have developed a more complex system in 1995, with the advantage of differential analysis of quantification of histological activity index fibrosis, which causes chronic hepatitis staging (8).

For chronic hepatitis C **Metavir** Study Group developed a scoring grid to analyze separately the activity (periportal necrosis, lobular necrosis) and fibrosis (9,10,11). It is currently used score widest worldwide.

TECHNICAL LIVER BIOPSIES

Liver biopsy may be performed in several ways, depending on the technique of approach: the percutaneous route, (12), by transjugular in patients with contraindications to

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Article received on 17.03.2010 and accepted for publication on 26.03.2010

ACTA MEDICA TRANSILVANICA June 2010; 2(2)210-212

percutaneous route, especially in cases in which plans are being fitted with a portosistemic transjugular intrahepatic (TIPS), the laparoscopic approach allows visualization of peritoneal cavity and liver surface. In a 1794 study conducted in 1995 on laparoscopic biopsy patients in a period of 5 years, accurate diagnosis was established on 98% of cases, with a 0.45% rate of complications (13).

If percutaneous biopsy are used Menghini needles which are aspiration type, with the advantage of the short duration of the procedure, but with less diagnostic disadvantage of small fragments; these cutting-trick (Trucut), with a diameter of 2.05 mm, which has the advantage of spare more representative, less fragmented, or Vim Silverman needle, with cutting blade. For patients suspected cirrhosis Truct needles 14 gauge type are preferred because they can extract the best parts biopsy without tissue fragmentation (12).

Also those Trucut type were considered superior to those of Menghini type, use a thicker needle improving diagnostic accuracy, but also implies an increased risk for the patient.

Percutaneous puncture can be performed by transthoracic intercostal approach or by subcostal approach. If approached intercostal puncture site is chosen for the maximum dulness, previous axillary line with prior anesthesia and minimal incision of all layers of skin to allow passage of the needle tip, followed by aspiration of liver tissue in the apnea, the end expiratory deeply.

PERCUTANEOUS LIVER BIOPSY CONTRAINDICATIONS

It is important to know and respect contraindications puncture. In a study of Mahal and all. in 1979 was a total of 22 accidents bleeding, in 3800 percutaneous liver punctures, resulting from failure strict contraindications.

Contraindications for liver biopsy are the:

- Impaired hemostasis, defined by prolongation of prothrombin time by more than 3 seconds over control APTT by more than 20 seconds to control, thrombocytopenia, marked prolongation of bleeding time.
- Anemia with Hb <9.5 g / Mr.
- Local infection site, adjacent points, as right. pleural fluid, pleural empyema, right. lower lobe penumonia, local cellulitis, infected ascites or peritonitis.
- Ascites (technical difficulty, possible fistula)
- Extrahepatic biliary obstruction with jaundice (risk of bile peritonitis)
- Septic cholangitis
- Hemagioma
- hydatid cyst
- Lack of possibility of transfusion with compatible blood
- Uncooperative patient

Additional benefit provided by ultrasound examination is considered by some authors questionable, biopsy site marked by percussion amended ultrasound in 3-15% of cases (14.15).

DISCUSSIONS

For a correct diagnosis as recommended analysis of fragments of at least 15-25 mm long and 1,2-2 mm in diameter, considering the need to examine at least 5 locations serving (according to some authors even 11 spaces) (16.17, 18). Bedossa's study (19) showed that only 65% of biopsies of 15 mm and 75% of the fragments of 25 mm were correctly classified.

The studies concluded that "the lower the fragment is, the easier will be labeled liver (20), being necessary to obtain as representative biopsy fragments (21).

Liver is not affected perfectly uniform, so that some clinicians recommend obtaining more biopsy fragments by changing the angle of approach in the diagnostic accuracy as high.

Regev and al. showed 33% of the 124 patients studied a minimum difference of 1 degree of fibrosis between 2 pieces of 15 mm from the right and left liver lobes (22).

However, the fragment statement is only 1 / 50000 of liver volume, an insignificant proportion, given that fibrosis is a heterogeneous process in the liver structure. Cirrhosis can be underdiagnosed in 10-30% of cases where considering single liver tissue, increasing to 100% accuracy whether examined 3 fragments. (23) It considers major experience pathologist, sometimes with increased value to fragment size liver (24).

Given these issues, future research opened the discovery of non-invasive methods for assessment of hepatic fibrosis, the accuracy of becoming greater in some countries is increasingly to dispense with liver biopsy.

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