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Fine needle aspiration cytology and liver biopsy for the diagnosis of NASH

Annotation. Along with viral, alcoholic and drug-induced, leading to the development of hepatitis and cirrhosis of the liver, an important role is played by metabolic disorders, which take the form of steatosis, steatohepatitis. Fine needle aspiration (FNA) biopsy of the liver under ultrasound guidance allows you to get material for research with minimal risk to the patient and increase the possibility of diagnostic method. Cytomorphological criteria allow verify NASH and differential diagnosis with other diffuse liver disease.

Keywords: needle biopsy, liver, tsitomorfologocal criteria

To prevent the progressive liver damage (liver cirrhosis, the development of hepatocellular carcinoma) and to improve the life expectancy, the standard screening program for patients at cancer risk was approved in Kazakhstan. This standard includes the liver ultrasound and serum α -fetoprotein level measurement. It should be noted that in early hepatocellular carcinoma α -fetoprotein levels may be normal. At the same time, in the circumstances of severe hepatic activity and active repair of damaged liver tissue, a transient increase in serum α -fetoprotein levels with decreasing to normal values after inflammatory activity resolves (acute viral hepatitis, fulminant hepatitis, exacerbation of chronic hepatitis or liver cirrhosis) is found.

The great importance is attributed to the alcoholic liver disease. The majority authors believe that hepatocellular carcinoma develops in alcoholic liver disease patients due to high hepatotropic virus infection rates. Liver cirrhosis is a substantial risk factor for hepatocellular carcinoma development.

It was noted that together with viral, alcoholic, and drug-induced damage leading to the hepatitis development, the metabolic disorders in form of steatosis, steato-hepatitis, and liver cirrhosis play an important role.

This study included 43 patients with signs of non-alcoholic fatty liver disease of varying degree, of them, 24 women and 19 men (20%) aged 50.9 ± 1.89 and 41.6 ± 6.22 years, respectively. 35 (87.5 %) patients had normal carbohydrate metabolism and impaired glucose tolerance was found in 5 patients (12.5 %), of which 4 patients (10 %) had type 2 diabetes mellitus. To clarify the nature and extent of the liver disease, all 43 patients underwent ultrasound guided needle biopsy of the liver using 1.1-1.3 mm needle.

After biopsy specimen is obtained the smears were prepared. Smears were air dried and stained with azur - eosin by Romanovsky or hematoxylin and eosin, and wet smears were fixed in 96 percent ethanol and stained using Papanicolaou's stain. After standard histological proceeding of the hepatic tissue core sections with 4 - 6 micron thickness were

prepared and stained with hematoxylin and eosin, pikrofuchsin by Van Gison, and Alcian blue, if applicable. Patients were divided into groups according to age as follows: <40 years (n=1), 41-50 years (n=10), 51-60 years (n=17), 61-70 years (n=13), and >70 years (n=2). NASH was verified histologically in 35 (82.5 %) patients, in remaining 5 (12.5 %) patients portal, periportal, and lobular hepatitis of various severity were found.

In our study, in the result of histological analysis hepatic steatosis was verified in 100% patients.

A small-droplet steatosis was found predominantly in the 3 acinar zone. Perisinusoidal fibrosis in the 3 acinar zone was established in 90%. Ballooning degeneration with signs of fatty infiltration was found in 8% patients. Mixed lobular inflammation was observed in 2% patients.

Therefore, the available histological and cytological criteria allow to verification of the non-alcoholic steatohepatitis and differential diagnosis with other diffuse liver diseases. Histological and cytological correlations have shown that in the presence of adequate material the correct cytological diagnosis done in 90.7% cases. Ultrasound- and CT-guided needle biopsy allows to material obtaining with minimal risk for patient and technical diagnostic capability improvement. Histological examination allows to determination of the disease activity and liver fibrosis degrees. Brunt's classification (2002) helps to most precisely diagnose non-alcoholic (metabolic) steatohepatitis.

ТҮЖЫРЫМ

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Бауырдың жіңішке инелік аспирациялық биопсиялық цитологиясын алкогольды емес стеатохепатит диагностикасы ушин қолдану

Бауырдың стеатозды гепатиті, яғни бауыр метаболизмінің бұзылуы вирустық, дәрілік алкогольды гепатитке қоса бауырдың циррозының дамыушы базы және маңызды себеп. Бауырдың жіңішке инелік аспирациялық биопсиялық цитологиясын ультра дыбыстық зерттеу мүмкіншілігімен бірге қолдану, алкогольды емес стеатохепатитті толық анықтауда сол арқылы бауыр циррозының яғни бауыр облырының алдын атуға, цитоморфологиялық әдістің маңызын арттырады және дифференциалдау диагностикасын жетілдіруге мүмкіндік береді.

Түйінді сәздер;: Пункционды биопсия, бауыр, цитоморфологиялық белгілер.

Аннотация

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Применение тонкоигольной аспирационной биопсии печени в диагностике неалкогольного стеатогепатита
Наряду с вирусным, алкогольным и лекарственным

поражением, ведущими к развитию гепатита и цирроза печени, важную роль играют нарушения метаболизма, которые принимают формы стеатоза, стеатогепатита. Пункционная (ТАБ) биопсия печени под контролем УЗИ позволяет получить материал для исследования с минимальным риском для больного и увеличить диагностическую возможность метода, цитоморфологические критерии позволяют верифицировать неалкогольный стеатогепатит и проводить дифференциальную диагностику с другими диффузными поражениями печени.

Ключевые слова: аспирационная биопсия, печень, цитоморфологические критерии.