

Detection of effect of anti-nuclear antibody on spectrum of autoimmune liver diseases and spectral liver damage

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Abstract: The liver is a main organ involved actively in metabolism. The hepatocytes contain a variety of enzymes responsible for normal physiological functions. In the process of degeneration or necrosis, the enzyme is released into the blood and by measuring serum active enzymes, diagnosis of liver cell damage and estimate the degree of liver damage can be estimated. Autoimmune hepatitis is a chronic inflammation of the liver, and in sustained liver injury, there is the tendency of development of cirrhosis; caused by an abnormal immune response, chronic viral hepatitis. 65 cases of liver damage and 48 healthy persons as control were collected during January 2011 to August 2012. Anti-nuclear antibody for detection to observe positive rate in autoimmune liver disease spectrum were analyzed. This can be used in order to improve awareness of the disease and as primary prevention of disease.

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Key words: autoimmune antinuclear antibody anti-mitochondrial antibodies antinuclear antibody spectrum

1 Material and Methods:

1.1 General Information: collected in our hospital from January 2011 to August 2012 inpatient specimens, 65 cases of liver damage in patients in the observation group, 33 males and 32 females, aged 17 to 77 years, with an average age of 45.75 years old. The clinical diagnosis are in line with the corresponding diagnostic criteria. 48 cases of healthy individuals as the control group, 17 males and 31 females, aged 21 to 66 years, with an average age of 55 years old.

1.2 Methods

1.2.1 Specimens were collected as observation group and control group in the morning fasting specimens from peripheral venous blood and 4ml serum was separated by centrifugation.

1.2.2 Specimens: 1. Autoimmune liver disease spectrum detection: a Western blot, the German the IMTEC company production kit, strictly in accordance with the instructions. Can be detected in six kinds of antibodies were anti-mitochondrial antibody (AMA-M2), anti-liver / kidney microsomal antibody (LKM1), anti-soluble liver antigen (SLA), anti-soluble acidic nuclear protein antibody (sp100), anti-nuclear membrane glycoprotein antibody (gp210), hepatic cell a slurry type I antigen antibody (LC-1). Antinuclear

antibody detection: enzyme-linked immunosorbent assay, the German the IMTEC company production kit, strictly in accordance with the instructions; antinuclear antibody spectrum detection instruments used Statfax-2100 microplate reader, reference value 0-1. 3: Western blot, Germany IMTEC production kit, strictly in accordance with the instructions. Were 12 different antibodies for anti SSA-A/RO 60KD anti SSA-A/RO 52KD, anti-SSB, anti-SmD1, anti-u1-snRNP, anti-Scl-70, anti-JO-1, anti-centromere antibody (A-CENP-B), anti-ribosomal PO (A-Rib) antibody, anti-ds-DNA, anti-histone antibody (AHA), antinuclear antibodies (ANuA).

1.3 Statistical analysis: SPSS19 statistical package deal with 2 tables and the test or Fisher exact probability. P <0.05 was considered statistically significant.

2 Results

2.1 autoimmune liver disease spectrum resistance detected 65 cases of liver damage detected in the patient's anti-AMA-M2, anti - gp210, anti-LC-1, respectively, for the six cases, three cases and 1 cases, the rest are 0. Compared with the control group, significant anti-AMA-M2 (Illustrated in table 1).

Table 1. Autoimmune liver disease spectrum test results (%)

Groups	Case	A-AMA-M2	A-LKM1	A-SLA	A-sp100	A-gp210	A-LC-1
Liver damage	65	6(9.23%) ^a	0 (0%)	0 (0%)	0 (0%)	3(4.62%)	1(1.54%)
Control group	48	0(0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Suffix A- = anti, Compared with the control group (^aP<0.05)

2.2 antinuclear antibody and spectral lines detected 65 patients with liver cirrhosis detection ANA, anti-SSA-A/RO 60KD, anti SSA-A/RO 52KD, anti-SSB, anti-SmD1 antibodies were 14 cases, 4 cases, five

cases, 3 cases, 1 case, the rest are 0 cases. Compared with the control group, ANA statistically significant. (Illustrated 2).

Table 2. Antinuclear antibody and spectral detection results of cases (%)

Groups	Case Group	AScl-70	A-JO-1	A-CENP-B	A-Rib	A-ds-DNA	AHA	A-NuA
Liver injury	65	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Control group	48	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Compared with the control group^aP<0.05

3. Discussion:

Autoimmune hepatitis (AIH) is a liver cell target antigen induced autoimmune disease, multi predilection in young women, the typical pathological changes mainly around the area of the portal area and periportal interface hepatitis, including inflammatory cells, lymphocytes, plasma cell infiltration, and liver cells around the periportal piecemeal necrosis, no abnormal bile duct. Performance hypergammaglobulinemia and IgG increased, ALT persistent or recurrent elevated [1]. Autoantibodies in the diagnosis, differential diagnosis, treatment and pathogenesis studies to play an important role. ANA, ASMA (anti-smooth muscle antibody), anti-LKM-1, anti-SLA / LP antibodies, anti-LC-1 antibody; AIH patients but the ANA is seen in a variety of connective tissue disease and other autoimmune diseases, so the AIH does not have a diagnostic specificity. However, if the ANA, ASMA, is highly suggestive of AIH. Anti-SLA antibody is the AIH most specific diagnostic markers. Anti-LKM-1 antibody, anti-LC-1 antibody specific marker for type II AIH [2], two can co-exist, and can also stand alone.

From our experiments, autoimmune liver disease spectrum detection, anti-AMA-M2, anti-gp210 and anti-LC-1 inspection

The positive rates were 9.23%, 4.62% and 1.54%, the rest are 0. Compared with the control group, statistically significant anti-AMA-M2. But anti-AMA-M2 diagnosis of primary biliary cirrhosis (PBC) has a higher specificity and diagnostic value. Mitochondrial antibodies for PBC's iconic antibody positive rate can reach 90% or more, in particular, the value of M2 subtype diagnosis is clear [3], this antibody can be as early as in the clinical years, early diagnosis is important.

Antinuclear antibody detection and spectral detection, ANA, anti SSA-A/RO 60KD, to anti SSA-A/RO 52KD, anti-SSB, anti-SmD1 antibody positive rate were 21.54%, 6.15%, 7.69%, 4.62,1.54%, the rest

are 0. Compared with the control group, ANA statistically significant. ANA is the most common target antigen is a group of proteins, RNA and DNA is the most common, found the the earliest autoantibodies, a group with a variety of cell nuclei ingredients autoantibodies and non-organ-specific and species-specific [4]. Autoantibodies is an important indicator of the clinical distinction between AIH and chronic viral hepatitis. The main clinical manifestations of liver damage, associated with extrahepatic autoimmune diseases, and a variety of autoantibody-positive patients with young women, should be suspected of AIH may. However, a variety of liver diseases autoantibodies may occur, not alone to the diagnosis of AIH, the need to combine clinical performance, blood biochemistry, histopathology considering.

Unexplained liver injury in patients with timely detection of autoimmune liver disease spectrum with the anti-nuclear antibody and spectral contribute to the diagnosis and differential diagnosis of the disease, more patients with autoimmune hepatitis can get early treatment, which prevent the development of AIH, and prolong survival.

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