Autoimmune Hepatitis:- Another Specific Immune Marker

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Summary:

Background: *Autoantibodies that target a soluble liver antigen/liver pancreas (SLA/LP) autoantibodies exhibit a high specificity for autoimmune hepatitis (AIH) and they characterize a third subgroup of AIH. These autoantibodies directed against a 50 KD cytosolic protein identified as UGA suppressor serine tRNA-protein complex.*

Objective: *The aim of the study is to know the prevalence and clinical relevance of anti-SLA/LP autoantibodies in AIH.*

Methods: *The study was performed on 73 Iraqi patients with autoimmune hepatitis (AIH), attending the teaching hospital for gastroenterology and liver disease in the period between November 2003 and July 2004. The Anti- soluble liver antigen/liver pancreas autoantibodies (SLA/LP) was studied by Euroline method.*

Results: *Anti-SLA/LP was detected in 8 patients (11%) with AIH, with negative finding for antinuclear and liver/kidney microsomal antibodies, marker of two types of AIH, but never in the sera of control groups.*

Conclusion: *The presence of anti-SLA/LP autoantibodies identified additional patients with AIH previously thought to suffer from cryptogenic hepatitis. Since, it was exclusively detected in AIH, this makesg it a diagnostic test for direct clinical relevance.*

Introduction:

Autoimmune hepatitis (AIH) is an unresolving inflammation of the liver of unknown cause associated with interface hepatitis on histological examination, hypergammaglobulinemia and presence of circulating autoantibodies(1-3) . There is no single diagnostic test for AIH (2,4), whereas a combination of clinical, laboratory, and histological findings were required for their diagnosis (5,6). Antibodies to soluble liver antigen/liver pancreas antigen (SLA/LP) have been described as specific for AIH (6,7). On the other hand, these antibodies were present in 30% of all patients with AIH, many of whom were negative for other autoantibodies, making these antibodies an important diagnostic marker (6,7,8,9). The candidate antigen is a transfer ribonucleoprotein (tRNA(ser)sec) involved in the incorporation of selenocysteine into peptide chains (16).

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Patients and Methods:

Patients: Seventy three patients (53 females, 20 males) with AIH who met the International Autoimmune Hepatitis Group (IAHG) 1999 revised criteria (15)
attending the teaching hospital for gastroenterology and liver disease in a period between November 2003 and July 2004,compared with 20 patient control (HBV) and 20 healthy control group (age and sex matched). All groups were subjected to immunoserological detection of anti-SLA/LP autoantibodies.

Laboratory investigation:

Anti-SLA/LP was detected using the Euroline method, which has been supplied by Euro immune company, Germany. The test kit contains test strips coated with parallel lines of antigens, which have been purified by affinity chromatography.

Results:

Result shows that most of anti-SLA/LP positive patients were young women (all patients are woman) with mean age 31.25± 6.52 (range 20-50 years).

Eight patients were found to be positive for anti-SLA/LP, all those patients fulfilling standard diagnostic criteria for AIH. One of those patients in addition fulfilled diagnostic criteria for primary biliary cirrhosis, thus representing patients with PBC/AIH overlap syndrome. They were not found in any patients with HBV infection or in the 20 healthy controls. The 8 patients were all negative

for ANA and anti-LKM1, 5 anti-SLA/LP positive serum samples were negative for all autoantibodies sought by conventional technique (Table-1).

Table (1): Autoantibody profiles of anti-SLA/LP positive patients

Patients No.	ANA	SMA	AMA	Anti-LKM1	SLA/LP
1	-	-	-	-	+
2	-	-	+	-	+
3	-	+	-	-	+
4	-	-	-	-	+
5	-	+	-	-	+
6	-	-	-	-	+
7	-	+	-	-	+
8	-	-	-	-	+

It was found that, in 3 patients (37.5%) a second or third disease was present, totaling 6-associated disease (figure 1). The majority of those diseases had an autoimmune etiology.

Regarding the clinical course this study showed that, four patients developed hepatic failure with encephalopathy. Three of four patients died; the one survivor developed CAH.

Interestingly, six of eight patients had already received immunosuppressive treatment, and all responded well with a fall in aminotransferase and gamma globulin levels corresponding to disease activity, anti-SLA/LP Abs declined during therapy (figure-2).

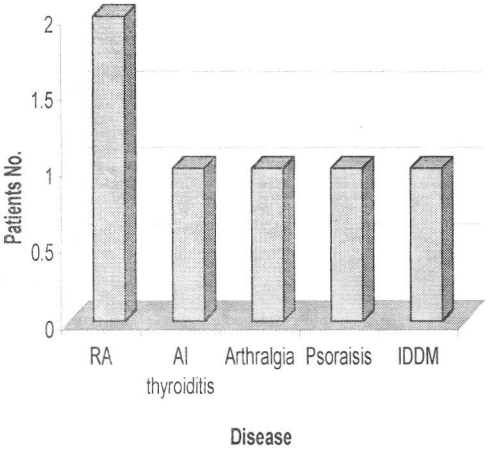

Figure (1): The distribution of concurrent immune disease in patients with SLA/LP +ve results.

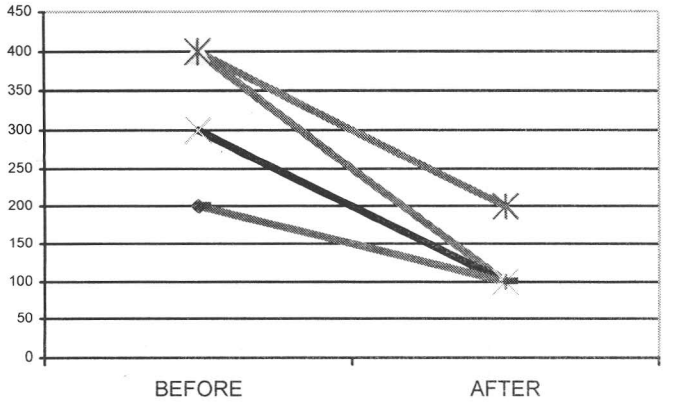

Figure (2): The correlation between level of SLA/LP Abs and disease activity.

Discussion:

The observation in this study that the mean age of the patients were (31.25±6.52), these finding were almost comparable to other abroad studies who observed that the mean age was (37.2±8.62). On the other hand, our data showed that 100% of patients were women, this result come in concordance with abroad studies where women represent 90%(10,11).

It is generally accepted that, detection of serum autoantibodies is presumptive evidence for AIH and other autoimmune disorders. Therefore, when compared with patient's control (known to develop autoimmune phenomena), anti-SLA/LP autoantibodies were observed only in AIH patient's sera, and never in the sera of patients control as well as healthy control group. The prevalence showed in the present study for anti-SLA/LP Abs are substantially in line with previous reports (12).

The specificity of these Abs for the diagnosis of AIH makes them important for diagnostic purposes. In addition the disease specificity suggests that these autoantibodies or their antigen are somehow closely related to the immunopathogenesis of AIH.

Several abroad studies declared that patients with anti-SLA/LP antibodies typically lack ANA and anti-LKM1, while they commonly have SMA and more rarely AMA (13,14). According to the present study this fact was proved since SMA was present in 37.5% of cases. On the other hand, one clue to diagnose overlapping of autoimmune disease (AIH) may be the coexistence of other disease with immune or autoimmune features, this fact was very clear in this study since, 3 patients with anti-SLA/LP autoantibodies positive result had concurrent immunological disease, including RA, IDDM, AI thyroditis, psoriasis and arthralgia.

SLA/LP autoantibodies positive result had concurrent immunological disease, including RA, IDDM, AI thyroditis, psoriasis and arthralgia.

The result obtained from the present study were similar to that reported by many workers who showed that presence of anti-SLA/LP autoantibodies associated with disease severity. Meanwhile, patients who have these autoantibodies display a more sever disease, since 4 patients with anti-SLA/LP Abs have an acute onset of illness developed fulminate hepatic failure with encephalopathy. Three of the 4 patients died, the one survivor developed chronic active hepatitis. Moreover, the level of anti-SLA/LP autoantibodies fluctuate according to inflammatory activity of the disease and can be viewed as an additional marker to monitor therapeutic efficacy.

Therefore, the presence of these autoantibodies might be useful to predict patients with sever course of the disease, causing there death more frequently than negative counterparts.

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