Case Report

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A Case of Autoimmune Hepatitis Presenting with Fever and Bicytopenia

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ABSTRACT

Objectives: Autoimmune hepatitis is a chronic inflammatory liver disease of unknown cause. In the etiology, genetic predisposition and triggering factors such as viruses (hepatitis A, hepatitis B, hepatitis C, Ebstein Bar virus, cytomegalovirus), bacteria, drugs (propylthiouracil, nitrofurantoin, isoniazid, etc.) are emphasized. Cases may be asymptomatic or present with complaints such as fatigue, weakness, jaundice, upper abdominal discomfort, pruritis, loss of appetite, nausea and fever. We presented a case of autoimmune hepatitis presenting with fever and bicytopenia.

Keywords: Autoimmune hepatitis, fever, bicytopenia

Autoimmune hepatitis (AIH) is a progressive, chronic necroinflammatory liver disease of unknown etiology.[1] Considering the etiopathogenesis of AIH; It is emphasized that genetic predisposition causes impaired self-tolerance to liver autoantigens and that both direct cell-mediated and antibody-mediated cell damage develop in these susceptible individuals with the effect of triggering factors. Although it varies according to ethnic origins, in terms of genetic predisposition, HLA DR3, HLA DR4, DR7, HLAB1 alleles are prominent.[2] AIH is more common in women and its prevalence varies widely between geographic regions.[3, 4] Patients may present with a wide variety of symptoms such as fatigue, weakness, jaundice, upper abdominal pain, pruritus, anorexia, nausea, and fever, which makes differential diagnosis necessary with many diseases. For the diagnosis of the disease after exclusion; determined by the international autoimmune hepatitis study group, female gender, the ratio of alkaline phosphatase elevation to aminotransferase elevation, total globulin, gamma globulin or IgG elevation, autoantibodies (ANA, ASMA or Anti-LKM), hepatitis virus indicators, hepatotoxic drug use, alcohol, liver histology, the presence of other autoimmune diseases in the patient or first degree relatives and some optional additional factors are used in the scoring system. (Table 1).[5] İn this study, we explained a case of autoimmune hepatitis presenting with fever and bicytopenia.

CASE

A 39-year-old male patient was admitted to our emergency department with complaints of fever and malaise. It was learned that the patient's complaint of fever continued intermittently for 2 days, and 39 C was found in the measurements. There was no feature in the patient's history. He also had no history of alcohol or smoking use. On physical examination; His general condition was good, he was conscious, cooperative and oriented. His blood pressure was 120/80

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Table 1. Diagnostic criteria of the Autoimmune Hepatitis

Clinical feature	Score
Female gender	+2
ALP: AST ratio	
< 1.5	+2
1.5 – 3.0	0
> 3.0	-2
Serum globulin or IgG above normal	
> 2.0	+3
1.5 – 2.0	+2
1.0 – 1.5	+1
< 1.0	0
ANA, SMA, LKM1	
> 1:80	+3
1:80	+2
1:40	+1
< 1:40	0
Illıcit drug use history	
Positive	-4
Negative	+1
Average alcohol intake daily	
< 25 g/ day	+2
> 60 g/ day	-2
Histologic findings	
Interface hepatitis	+3
Lymphoplasmacytic infiltrate	+1
Rosette formation	+1
None of the above	-5
Biliary changes	-3
Other changes	+2
Other autoimmune disease	+2
AMA positivity	-4
Hepatitis viral markers	
Positive	-3
Negative	+3
Aggregate score without treatment	
Definite AIH	> 15
Probable AIH	10-15

ALP = alkaline phopshatase; AST = aspartate aminotransferase; IG = İmmunoglobulin; ANA = antinuclear antibody; SMA = smooth muscle antibody; LKM1 = Lİver kidney microsomal antibody; AMA = antimitochondrial antibody.

mmHg, heart rate was 78/min, and fever was 39 C. In the abdominal examination, hepatomegaly with a rib arc exceeding 3 cm was detected. No abdominal tenderness, rebound and defense were detected. Blood count, C-reactive protein (CRP), complete urinalysis, and entire abdominal ultrasonography were requested from the patient. As a result of the examinations; the patient who was found to have leukopenia, thrombocytopenia and hepatosplenomegaly was admitted to the ward for differential diagnosis. In the examinations made during the patient's admission to our clinic are shown in Table 2. Due to fever and high CRP, the patient was consulted to infectious diseases department. Viral markers, blood culture, Rose Bengal and Wright tests were sent from the patient and ceftriaxone 2 g/day treatment was started. In the follow-ups, the patient had a decrease in fever, an increase in the leukocyte and thrombocyte counts, and an improvement in the CRP value. However, the patient's AST, ALT, ALP, GGT values increased compared to the baseline. In the patient's examinations, HBsAg (-), anti-HIV, anti-HCV, Epstein-Barr virus (EBV), parvovirus B 19, influenza A/B, cytomegalovirus (CMV), brucella agglutination (Wright) and Rose Bengal tests were found to be negative. The patient was evaluated in the hematology department with the result of peripheral blood smear and no pathology was observed. While the fever did not recur, the CRP level decreased to normal levels. Antibiotic treatment was stopped on the fifth day of hospitalization. The patient was consulted to the gastroenterology department because of the gradual increase in liver enzymes.

For the etiology, tests were requested from the patient. As a result of the examinations; total protein level: 6.0 g/dl (6.40-8.30 g/dl), albumin level: 3.6 (3.5-5.20), antinuclear antibody (ANA) (-), antismooth muscle antibody (ASMA) (-), antimitochondrial antibody (AMA) (-), liver/kidney microsomal autoantibody-1 (anti-LKM-1) (-) was determined as. The patient was diagnosed with autoimmune hepatitis using the scoring system determined by the International Autoimmune Hepatitis Study Group (ALP/AST: 2 points, viral markers: 3 points, alcohol: 2 points, hepatotoxic drug: 4 points; total: 11 points so Probable AIH). On the 7th day of the patient's treatment, whose steroid treatment was started by the gastroenterology department, his clinic improved and the patient's ALT/AST level was found to be 62/74 U/L. The patient was discharged to follow up outpatient clinic with current treatment.

DISCUSSION

Autoimmune hepatitis is a chronic liver disease in which genetic predisposition and triggering environmental factors play a role in its etiology.[1] While the cases in autoimmune hepatitis may be asymptomatic, they may present with acute hepatitis, fulminant liver failure, subfulminant liver failure, chronic hepatitis and liver cirrhosis.6 Patients may present with

Table 2. Patients Laboratory

Hemoglobin	12.2 g/dL (14-17.5)
Leukocyte count	2640/mm3 (4400-11.300/)
Platelet count	91.000/mm3 (150.000-400.000)
Aspartate aminotransferase (AST)	82 U/ L (5-34)
Alanine aminotransferase (ALT)	182 U/L (0-55)
Lactate dehydrogenase (LDH)	414 U/L (125-220)
Blood urea nitrogen (BUN)	15 mg/dL (8.9-20.6)
Creatinine	0.85 mg/dL (0.72-1.25)
Sodium	135 mEq/L (136-145)
Potassium	4.0 mg/dl (3.10-5.10)
C-reactive protein (CRP)	21.1 mg/L (<5)
INR	0.90 (0.75-1.0)
Total bilirubin	0.7 mg/dL (0.31-1.20)
Direct bilirubin	0.2 mg/dL (<0.50)
Gammaglutamyl transferase (GGT)	81 U/L (11-50)
Alkaline phosphatase (ALP)	67 U/L (40-150)

nonspecific complaints such as fatigue, nausea, itching, abdominal pain, loss of appetite and fever, and findings such as jaundice, hepatomegaly, and splenomegaly may be detected in their physical examination.[7] On the other hand, laboratory tests are used because they contribute both to the diagnosis of the disease and to the differential diagnosis of similar conditions. For this purpose, frequently used examinations; complete blood count, total bilirubin, GGT, ALP, AST, ALT, prothrombin time and autoantibodies (AMA, ASMA, Anti LKM-1, ANA).[8] In addition to hematological disorders such as thrombocytopenia, leukopenia, and anemia, an increase in CRP and elevated serum aminotransferases at different levels can be detected in AIH. GGT and ALP levels are usually normal or slightly elevated.[3, 9] In this case; There was a finding of hepatosplenomegaly accompanying complaints such as fever and malaise, and in the first examinations, ALT, AST elevation and bicytopenia were detected. With these results, HBsAg, anti-HIV, anti-HCV, Epstein-Barr virus (EBV), parvovirus B 19, influenza A/B, cytomegalovirus (CMV blood culture, rose bengal and Wright tests were sent from the patient for differential diagnosis of infection). On the other hand, due to fever and bicytopenia, the patient was evaluated for hematological malignancies in the differential diagnosis. As a result, these diagnoses were excluded, since no findings in favor of malignancy and infection were found in the examinations performed. In the diagnosis of autoimmune hepatitis, a scoring system based on the criteria determined and reviewed by the "International Autoimmune Hepatitis Study Group" is used.[5, 10, 11] As a result of this scoring system, cases can be defined as definite or probable AIH. We scored our case according to these criteria and diagnosed autoimmune hepatitis. Corticosteroids can be used as monotherapy or in combination with azathioprine for the initial treatment of patients diagnosed with autoimmune hepatitis. Especially the patients who are diagnosed early respond well to these treatments. On the other hand, cyclosporine A, tacrolimus, cyclophosphamide, mercaptopurine, mycophenolate mofetil and ursodeoxycholic acid are other agents that can be used in the treatment.[12, 13, 14] In our case, after the diagnosis was made, corticosteroid treatment was started in the gastroenterology department, and laboratory values decreased significantly in the follow-up. Consequently; Since early diagnosis and treatment of autoimmune hepatitis in patients presenting with fever and bicytopenia have significant effects on progression, it must be considered.

Authors' Contribution

Study Conception: AO, FT,; Study Design: AO, FT,; Supervision: AO, FT,; Materials: AO, FT,; Data Collection and/or Processing: AO, FT,; Statistical Analysis and/or Data Interpretation: AO, FT,; Literature Review: AO, FT,; Manuscript Preparation: AO, FT and Critical Review: AO, FT.

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