Patient With Autoimmune Hepatitis Requiring Liver Transplant: Case Report and Literature Review

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Introduction

Autoimmune hepatitis (AIH) is acute or chronic liver disease, which is caused by autoimmune-induced damage to the hepatocytes. AIH is known for elevated anti-smooth muscle antibodies (ASMA) and serum globulin levels. A liver biopsy is needed for the diagnosis of AIH. Despite its favorable prognosis, few cases can progress to fulminant liver failure.

Case Report

71-year-old male taking Descovy as preexposure prophylaxis for HIV for 1 year, is admitted 3 consecutive times over 1 month due to fatigue and jaundice. He was noted to have elevated transaminase levels. His presentation was suspected secondary to Descovy. Abdominal ultrasound was notable for hepatomegaly otherwise normal. He reported social alcohol consumption. He denied acetaminophen or new medication use. Vital signs were stable and a physical exam showed jaundiced skin and hepatomegaly. The laboratory workup is shown below. Descovy was stopped and he was discharged. He was readmitted 1 week later for worsening symptoms. Workup was noted for positive ASMA for which he underwent a liver biopsy which was consistent with AIH. Infectious workup was unremarkable. He was started on a prednisone taper. Liver enzymes stabilized and he was discharged with plans to start azathioprine as an outpatient. However, he was admitted 2 weeks later for abdominal pain and encephalopathy. His labs showed worsening bilirubin, INR, and creatinine levels. CT head and abdomen were unremarkable. Doppler ultrasound demonstrated patent hepatic vasculature. He was placed on IV hydration, lactulose, and rifaximin. Due to concerns for hepatorenal syndrome, midodrine, octreotide, and albumin were added. He had a liver transplant evaluation which he underwent successfully. After prolonged hospitalization, he was discharged to post-acute rehab with a regimen consisting of tacrolimus, azathioprine, and prednisone.

Table

	Admission #1	Admission #2	Admission #3	Post transplant	Reference range
AST	481	952	264	32	5-45 U/L
ALT	1048	1284	501	61	12-78 U/L
ALP	236	184	166	66	46-116 U/L
Total bilirubin	15.29	36.00	42.02	0.68	46-116 U/L
Direct bilirubin	11.47	26.99	30.82	0.24	0.00 - 0.20 mg/dL
Total protein	7.5	7.2	6	7	6.4-8.2 g/dL
Albumin	3.3	2.7	2.1	3.7	3.5-5.0 g/dL
PT	14.5	17.9	44	13.5	11.5-14.5 seconds
INR	1.13	1.49	5.04	1.07	0.84-1.19
BUN	20	19	107	39	5-25 mg/dL
Creatinine	1.28	1.39	4.03	4.37	0.6-1.3 mg/dL
Hemoglobin	17	16.5	16.7	11.3	12.0-17.0 g/dL
WBC	7.89	8.74	16.2	6.13	4.31-10.16 thousands/uL
Platelets	125	118	165	165	149-390 thousands/uL
Sodium	134	132	131	139	136-145 mmol/L
Potassium	3.7	3.7	5.3	4.4	3.5-5.3 mmol/L
Chloride	100	100	103	103	100-108 mmol/L
Calcium	8.9	9.2	9.2	10.1	8.3-10.1 mmol/L
Ammonia	31	24	53	N/A	11 - 35 umol/L
ASMA	40 U				0-19 U
AMA	< 20				0-20 U
ANA	Negative				Negative
IMMUNOGLOBULIN A IMMUNOGLOBULIN G IMMUNOGLOBULIN M	N/A		101 1123 93		50-500 mg/dL 650-2000 mg/dL 40-270 mg/dL
Acetaminophen	< 2				10-20 ug/ml
Urine drug screen	Negative		Negative		Negative
Ceruloplasmin	22.2				16-31 mg/dL

Images

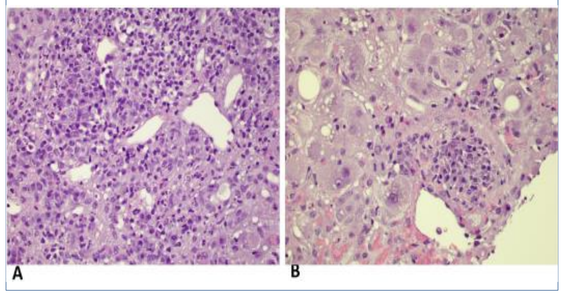

Image A is showing portal tract with reactive bile ducts, abundant plasma cells, and interface hepatitis (H&E stain, 10X). Image B is showing Lobular aggregate of plasma cells adjacent to a central vein and involving hepatocytes which show reactive changes including ballooning (H&E stain, 20X).

Discussion

The initial treatment for AIH is glucocorticoid therapy. Azathioprine can be added in moderate to severe cases or when there is a contraindication from using high-dose steroids. Few studies showed that tacrolimus can be effective in some cases that do not respond to steroids. Response to treatment is assessed by improvement of symptoms, laboratory tests, and liver histology. A liver transplant remains a rare indication in AIH and is reserved for patients who do not respond to immunosuppressants or progress to fulminant liver failure. The recurrence rate is reported to be 20-40% with a possibility of developing de novo AIH in few cases.

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