



Is NAFLD a coexisting or synergistic factor that increases mortality in patients with Autoimmune Hepatitis?

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Introduction

- Non-alcoholic fatty liver disease (NAFLD) is characterized by fat accumulation within the liver and presence of hepatic steatosis histologically.
- As sedentary lifestyles amongst the general population increases, the incidence of NAFLD has also increased, making it more likely that it will co-occur with other chronic hepatic diseases such as autoimmune hepatitis (AIH).
- It is unknown whether AIH and NAFLD simply coexist or if they are synergistic diseases that predispose patients to increased morbidity and mortality.

Objectives

1. Develop a diagnostic approach to patients with generalized weakness and fatigue
2. Identify common risk factors, pathophysiology and treatment options for NAFLD and AIH
3. Recognize that NAFLD may be a synergist factor in patients with AIH

Case Description

- A 71-year-old female presented with concerns for a gastrointestinal bleed and generalized weakness.
- Past medical history:
 - COPD on 5L oxygen
 - Asthma
 - Hypertension
 - Chronic diastolic heart failure
 - Myocardial infarction
 - Remote history of hepatitis C infection
 - Rectal bleeding two months prior that required blood transfusion
- On exam:
 - Vital signs were within normal limits
 - Denied tenderness to palpation on her right upper quadrant
 - Remainder of the exam was unremarkable.

Diagnostic Testing



Figure 1. CT scan showing hepatosteatorosis in the absence of prior alcohol use solidifying a diagnosis of NAFLD



Figure 2. CT scan showing extensive abdominal and pelvic ascites and increased mesenteric fat stranding

Hospital Course

- EGD showing Grade 1 esophageal varices with no active bleeding
- Patient refused colonoscopy
- She was started on pantoprazole and ceftriaxone for spontaneous bacterial peritonitis prophylaxis, and octreotide for esophageal varices
- Presenting Model for End-Stage Liver Disease (MELD) score of 19 and Child Pugh Class B
- Her Cr improved **initially** with intravenous fluids

Days	Creatinine (Cr)	Labs	Electrolytes	WNL
1	1.69	Hgb	9.1	
2	1.84	CBC	WNL	
3	2.22	ALT	5-13	
4	2.5	AST	11-41	
5	3.2	Ammonia	71	
6	4.2	Albumin	< 2.0	

- Given worsening Cr, decreased albumin, anuric state and ammonia level, hepatorenal syndrome was suspected and she was started on midodrine, albumin, and lactulose

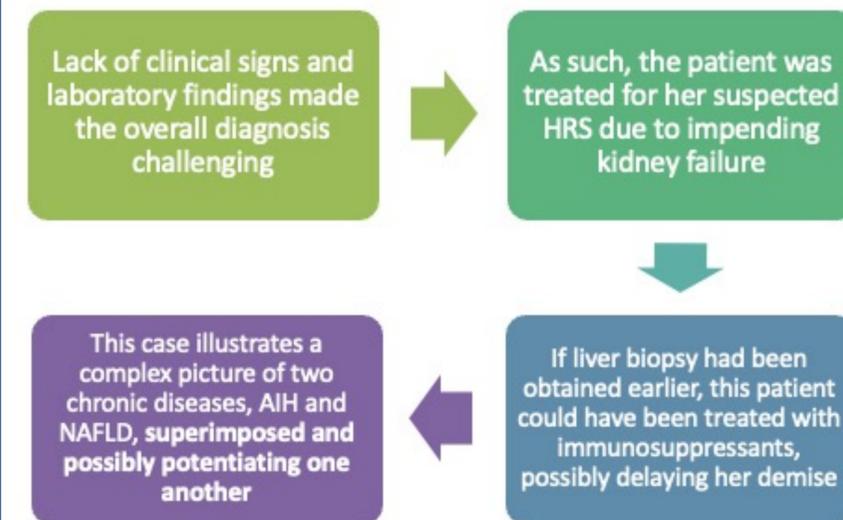
Patient Outcome

- Within one week her MELD score had increased to 32
- Ultimately, the patient underwent her first round of **hemodialysis** due to anuria and the following day was transferred to another facility for potential liver transplantation.
- Patient was lost to follow up and unfortunately passed away
- **Post-mortem liver biopsy revealed a diagnosis of AIH**

Discussion

- Overall, AIH patients with NAFLD/NASH are more likely to develop adverse outcomes and have poor survival rates as compared to their AIH-only counterparts.
- Treatment for AIH includes immunosuppressants and eventual liver transplantation.
- Previous literature has shown that those with concomitant AIH with NAFLD have significant increases in ALT, AST, ALP, total bilirubin and IgG in comparison to those without NAFLD.

Conclusions



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