

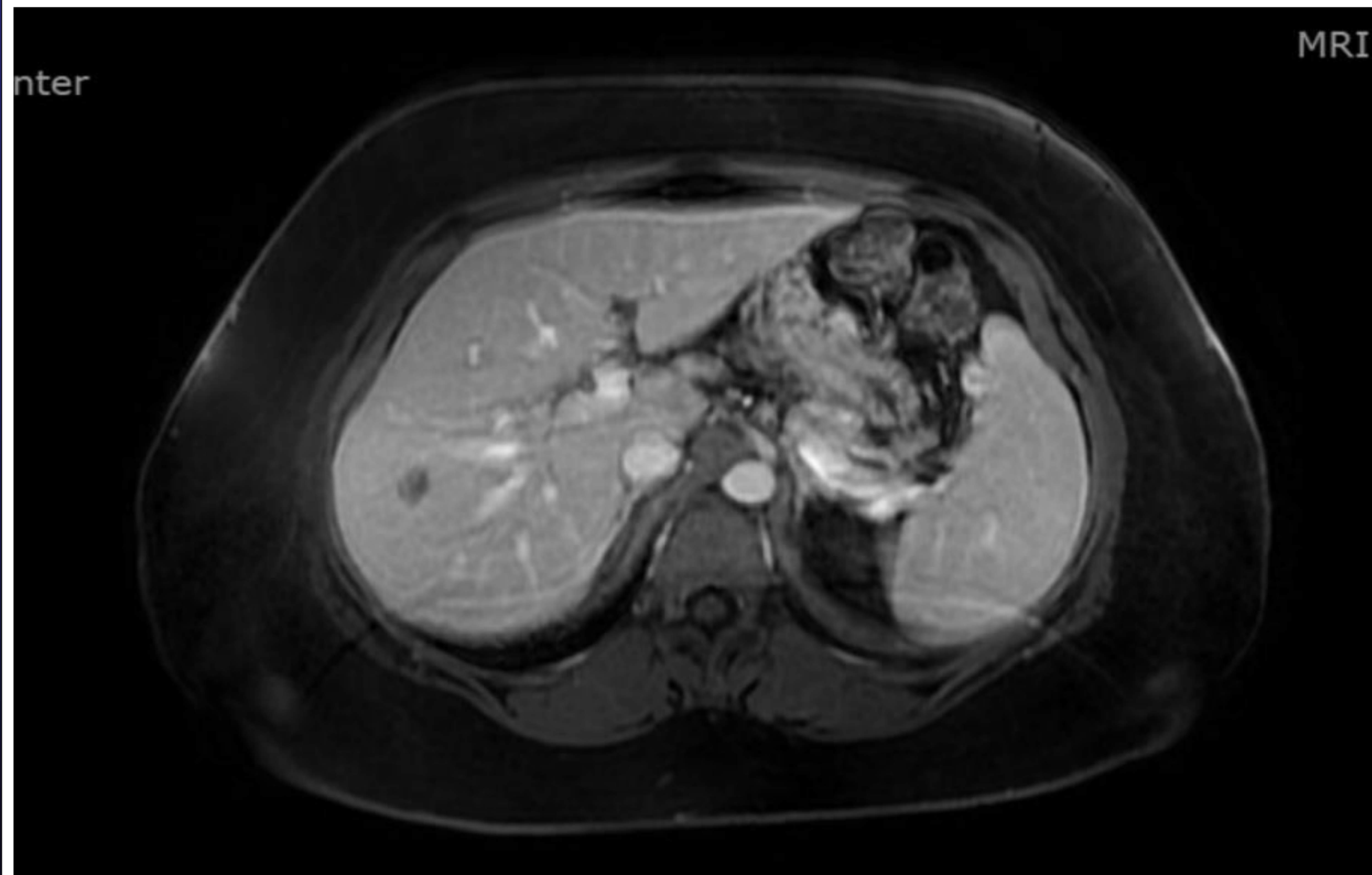
# Autoimmune Hepatitis Triggered by Acute Liver Failure Caused by Hepatitis A

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## Introduction

- Autoimmune hepatitis is a disease with autoantibodies and elevated serum globulin levels that can present either as acute or chronic hepatitis.
- It has been theorized that autoimmune hepatitis is unveiled when there is an environmental trigger in a genetically predisposed individual. There has been some evidence that various viruses can be a trigger as well.



MRI showing hepatomegaly and a lesion in the right hepatic lobe consistent with benign hemangioma

## Case

- A 37-year-old female with no medical history was previously hospitalized with acute liver failure secondary to acute hepatitis A in a restaurant related outbreak.
- She recovered after a four-day hospital stay and liver enzymes normalized after three months from > 7000 U/L. After another three months, she presented with complaints of dark colored urine, right sided abdominal pain, bilateral pedal edema, and fatigue and also found to have elevated liver enzymes (AST 1612 U/L, ALT 1347 U/L). Viral hepatitis labs were negative. Antinuclear antibody (ANA) and anti-liver-kidney microsome (anti LK) antibodies were negative but anti smooth muscle antibody (ASMA) was 1:80 and IgG was 3893.
- Liver biopsy performed revealed chronic moderately active hepatitis with abundant plasma cells and stage 2 fibrosis which combined with lab findings was suggestive of autoimmune hepatitis.
- Prednisone 20 mg every day was started and liver enzymes normalized in three weeks. At that time, azathioprine was started and prednisone was weaned off.

## Discussion

- The exact pathogenesis of autoimmune hepatitis is not clear but it appears that environmental triggers can cause the disease in genetically susceptible patients.
- It is thought to be a molecular interaction between the antigen, the major histocompatibility complex, and the T cell receptor which forms a complex. Triggers can include viruses, herbs, and immunizations.
- The major autoantibodies involved in autoimmune hepatitis include ANA, anti LK, ASMA, and anti-mitochondrial antibody.
- The goal of therapy is to suppress the immune system and often starts prednisone plus/minus azathioprine which can help reduce the doses of steroids required. This often leads to remission, at which point prednisone can be tapered and maintenance doses of azathioprine can be used.