

An Immunocompetent Adult with Adenovirus Hepatitis

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Introduction

In the US there has been a recent outbreak of adenovirus hepatitis in the pediatric population. However, to our knowledge, there has been only one reported case of adenovirus hepatitis in an immunocompetent adult. We have identified another such case.

CASE

A 25 year old female with no medical history presented with abdominal pain, nausea, vomiting, diarrhea, and subjective fevers for two weeks and was found to have transaminitis 25-30x the upper limit of normal, which were: AST 791, ALT 542, ALP 92, and total bilirubin of 2.9. The patient reported no prior history of liver disease. She denied alcohol, tobacco, illicit drugs, or herbal medications, but did report taking acetaminophen 1500 mg daily for two weeks. Serum acetaminophen levels were normal and serum and urine toxicology were negative. US with doppler was unremarkable, CT showed cholelithiasis, MRCP showed a normal common bile duct without obstructive calculus. Autoimmune causes of hepatitis, ceruloplasmin and alpha-1 antitrypsin were all unremarkable. HAV, HBV, HCV, HDV, HEV, CMV, HSV, VZV, EBV, HIV, and COVID19 were all negative. Ultimately, the serology for adenovirus was positive. After a week of supportive treatment, the patient's labs trended down and symptoms resolved.

Figures

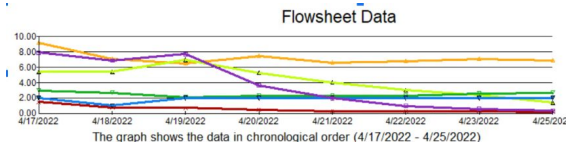
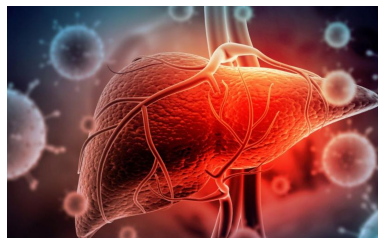
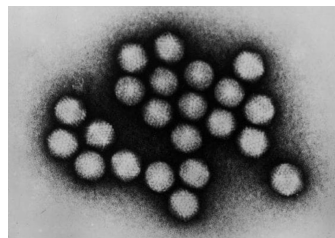


Fig 1: Hepatic function panel during hospitalization



x Direct Bilirubin
 Δ ALK PHOS (x10)
 ▲ ALT (SGPT) (x100)
 ▼ Globulin
 ▽ Albumin/Globulin SPE
 □ AST (SGOT) (x100)



DISCUSSION

Adenovirus is confirmed by a rise in antibody titer or by virus detection. Coagulative necrosis in histopathology is a finding in liver biopsies if they are pursued in unexplained cases of liver injury. Ultimately, adenovirus hepatitis can be diagnosed once all common causes of hepatitis have been excluded. In the current outbreak, only children have been getting adenovirus hepatitis. In adults, a high prevalence of neutralizing antibodies contributes to immunity, and therefore only in immunocompromised states, do adults get such an infection. Supportive care with IV fluids, electrolyte correction, and antiemetics usually is enough with eventual symptomatic and laboratory improvement as it was for our patient. Studies have shown that extensive disease can be treated with antiviral drugs, cidofovir, and ribavirin. Our patient's history of acetaminophen use is a confounder, however, her normal serum level and her symptoms suggestive of an infectious cause made acetaminophen less of a culprit. We hypothesize that our patient's use of acetaminophen when she was initially exposed to the virus is what made her susceptible to developing adenovirus hepatitis and we hope this case adds insight for clinicians dealing with future adult cases.

REFERENCES

Khalifa, Ali, Laura Andreias, and Sugirdhana Velpari. "Adenovirus hepatitis in immunocompetent adults." *Journal of Investigative Medicine High Impact Case Reports* 10 (2022): 23247096221079192.