

A Case of Drug-Induced Liver Injury Secondary to Ceftriaxone

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Received: 2024-08-09

Accepted: 2024-09-16

Published: 2025-06-30

Ceftriaxone continues to be one of the most prescribed antibiotics and has a relatively low incidence of liver injury. We present this case to raise awareness to this rare side effect associated with a commonly prescribed antibiotic used to treat a wide range of conditions. We present a case of drug-induced liver injury in an 81-year-old male with no prior history of liver-related health issues. Following the diagnosis of *E. coli* bacteremia the patient was started on ceftriaxone and was later found to have elevated liver enzymes. It was originally believed that the elevated liver enzymes were secondary to hepatic congestion and the patient was started back on his home diuretics to target this issue. However, his liver enzymes remained elevated. abdominal ultrasound showed gallbladder wall thickening, likely due to passive congestion, but no evidence of gallstones. It also showed a liver with a homogenous pattern, no focal mass, no ascites, and a patent portal vein. Laboratory analysis revealed a negative viral hepatitis panel. Ceftriaxone was then discontinued and switched to Unasyn. The patient's liver enzymes then began to downtrend and the diagnosis of drug-induced liver injury was made. This case report adds to the growing body of evidence that, although rare, ceftriaxone can cause significant liver injury. The case highlights the importance of close monitoring of liver function in the patients receiving ceftriaxone, particularly those with underlying health conditions that may predispose them to drug-induced hepatotoxicity. Early identification and discontinuation of the offending agent are essential to preventing further liver damage and ensuring patient safety.

Keywords: Acute Kidney Injury, Liver, Ceftriaxone

References

1. Zimmerman, H. J. *Hepatotoxicity: The adverse effects of drugs and other chemicals on the liver*. Lippincott Williams & Wilkins, 1999.
2. Chalasani, N. P., Hayashi, P. H., Bonkovsky, H. L., Navarro, V. J., Lee, W. M., & Fontana, R. J. *ACG Clinical Guideline: The diagnosis and management of idiosyncratic drug-induced liver injury*. American Journal of Gastroenterology, 2014. **109**(7), 950-966.
3. Andrade, R. J., Aithal, G. P., Björnsson, E. S., Kaplowitz, N., Kullak-Ublick, G. A., Larrey, D., & Karlsen, T. H. *EASL Clinical Practice Guidelines: Drug-induced liver injury*. Journal of Hepatology, 2019. **70**(6), 1222-1261.
4. Björnsson, E. S. *Hepatotoxicity by drugs: The most common implicated agents*. International Journal of Molecular Sciences, 2016. **17**(2), 224.
5. Tujios S, Fontana RJ. *Mechanisms of drug-induced liver injury: from bedside to bench*. Nat Rev Gastroenterol Hepatol, 2011. **8**(4):202-211.