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Cefuroxime axetil-induced liver failure

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Cefuroxime is a second-generation cephalosporin antibiotic. It is effective against susceptible bacteria causing infections of the middle ear, tonsillitis, throat infections, laryngitis, bronchitis, and pneumonia. It is also used in treating urinary tract infections, skin infections, and gonorrhea. It is a generally well tolerated antibiotic. Common adverse effects of cefuroxime axetil are diarrhea, nausea, vomiting, headaches/migraines, dizziness and abdominal pain.[1] In the literature, only two cases were reported that cefuroxime axetil associated cholesthatic hepatitis and ischemic hepatitis.[2,3] There have been no published reports of liver failure associated with cefuroxime axetil. Herein we presented a patient who developed liver failure associated with cefuroxime axetil use.

A 60-year-old female patient was admitted to our hospital with a four-day history of jaundice and vomiting. Her past medical history revealed an upper respiratory infection treated with a 10-day course of oral cefuroxime axetil 500 mg twice a day. The patient has completed the treatment four days prior to presentation. She denied alcohol use and was not taking any prescription or herbal medications. There was no history of sexually transmitted diseases. She had no relevant family and travel history. Physical examination was remarkable for scleral icterus and jaundice. Laboratory tests were performed, total bilirubin: 25, 6 mg/dL, conjugated bilirubin: 17, 9 mg/dL, ALT: 1527 IU/mL, AST: 1348 IU/mL, ALP: 1006 IU/mL, and GGT: 381 IU/mL. On admission, international normalized ratio (INR) was normal but increased to 1.9 six days after admission and total bilirubin increased up to 30 mg/dL and conjugated bilirubin to 20 mg/dL, while AST and ALT levels normalized. Other biochemical tests were normal. Serological markers for acute viral hepatitis were negative for anti hepatitis A IgM, anti-hepatitis B core IgM, CMV, EBV, herpes simplex viruses and hepatitis B surface antigen. Hepatitis C and HIV antibodies were negative. HBV-DNA and HCV RNA were negative. Liver ultrasound was normal. Autoimmune hepatitis markers including antinuclear antibody and smooth muscle antibody were negative with normal serum immunoglobulin levels. MELD score increased to 26 and patient was discussed about liver transplantation. Ursodeoxycolic acid (UDCA) was initiated two weeks after initial presentation. Within seven weeks from admission, her symptoms didn't resolve, the bilirubin levels and INR didn't return to normal range. She was transferred to liver transplantation center. After ten weeks later from admittance the patient recovered and laboratory parameters returned to normal.

There are only a few case reports implicating other cephalosporins as the cause of hepatotoxicity in adults.[3] Even though, cholestatic type toxicity and ischemic hepatitis were reported before, to our knowledge, our case is first presentation of liver failure with cefuroxime axetil. In conclusion, physicians should be aware of hepatotoxicity due to cefuroxime axetil since it is a widespread used antibiotic.

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