Severe hepatitis in a primary sclerosing cholangitis patient receiving recent cetirizine therapy

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Case report

A 66-year-old man with primary sclerosing cholangitis (PSC) and stable liver function tests apart from a \( \gamma \) glutamyl transferase (GGT) of 129 IU/L was seen in clinic with deranged liver function tests. He was taking cetirizine 10 mg per day for 1 month prior to his clinic appointment. He did not consume alcohol and was not known to have hepatitis B or C. Clinical examination revealed jaundice without hepatomegaly, ascites or encephalopathy.

Laboratory tests showed a negative HBsAg and negative Anti HCV. The serum total bilirubin was 29 umol/L, alanine aminotransferase (ALT) level of 1577 IU/L, aspartate aminotransferase (AST) level of 973 IU/L. His alkaline phosphatase (ALP) level was 264 IU/L and GGT level of 347 IU/L. His albumin was normal (37 g/L). His C reactive protein (CRP) and estimated glomerular filtration rate (eGFR) was normal. His full blood count (FBC) profile was normal.

Cetirizine was the only recent addition and suspected to cause his acute transaminitis. This was stopped and his repeat liver function tests 1 week later showed significant improvement. His bilirubin normalised (18 umol/L), ALT 199 IU/L, AST 36 IU/L, GGT 253 IU/L and albumin 37 g/L. This reflected spontaneous improvement without any therapeutic intervention including steroids.

Discussion

Cetirizine is an \( H_1 \)-receptor antagonist and is a non-sedating antihistamine. In the Medsafe database and Micromedex formulary, adverse effects of intrahepatic cholestasis, severe acute hepatitis in overdose was noted. Mild and transient elevation of transaminases have been seen in less than 2% of patients taking this drug.

There are three case reports of acute liver disturbances on cetirizine therapy. The first case described life-threatening hepatitis in a 23-year-old man who used cetirizine long-term for atopic dermatitis who recovered after prednisolone therapy. \(^1\) The second case reported recurrent acute hepatitis associated with short term cetirizine use for seasonal allergic rhinitis in a 26-year-old man. \(^2\) This case was found to have positive liver-kidney microsome antibodies suggestive of an autoimmune mediated hepatotoxicity. The third case report described cholestasis in a 28-year-old man with no previous hepatobiliary disease after a 2-year period of cetirizine use. \(^3\) He was treated with ursodeoxycholic acid and hydroxyzine with clinical improvement.

The mechanism of cetirizine hepatotoxicity may represent an autoimmune phenomenon or an idiosyncratic reaction. Although liver function derangement is not common with cetirizine therapy, one should be aware of its potential hepatotoxicity.
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References: