

Title:

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Turmeric associated liver injury (DILI) with susceptible HLA

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Dear Editor,

We present a 35-year-old Caucasian woman that was sent to the Hepatology clinics of our hospital in December 2023 for new onset jaundice. Without significant past medical history, the patient presented with bloating and dyspepsia for a week. No neurological abnormalities were found. She reported occasional alcohol intake, denying other drug consumption. No recent vaccination. She reported taking an over-the-counter supplement containing turmeric (tablet with 60 mg of curcumin and 10mg of black pepper) twice daily for 2 months with the aim of speedy recovery after CrossFit.

Blood analysis was remarkable for alanine transaminase (ALT) 2230 U/L, aspartate transaminase (AST) 916U/L, total bilirubin 10.5 mg/dl, and direct bilirubin 8.0mg/dl. Coagulation within range. Computed tomography revealed hepatic hemangiomas and cysts without biliary tract dilatation.

Further laboratory workup including acute hepatitis serologies (VHA, VHB, VHC, VHE, HSV, VVZ, EBV, CMV and Parvovirus) and autoimmune profile were unremarkable, except for being carrier of HLA DRB1*04 and HLA B35:01*in genetical studies.

Due to probable DILI diagnose, 8 points in CIOM/RUCAM scale (2), she was advised to stop Turmeric. She was followed up in our Hepatology clinics and observed how

liver enzymes progressively down-trended (Figure 1). Our patient remained asymptomatic with normal liver enzymes three months after stopping the supplement intake.

DISCUSSION

Drug-induced liver injury (DILI) is defined as a liver injury caused by medication, herbal supplements, or other products leading to abnormalities in liver enzymes. Based on the liver injury pattern, it is classified into hepatocellular, cholestatic and mixed. Our patient presented hepatocellular pattern and moderate severity.

Curcumin is supposed to be safe at dose of 6mg daily for less than two months (1). However, Turmeric also included black pepper which has been known to enhance the absorption of curcumin (bioavailability up to 20-fold in serum) increasing the likelihood of hepatotoxicity, as Fernández Bermejo et al. reported (3).

New cases of drug-induced liver injury (DILI) and drug induced autoimmune hepatitis (AIH) have been reported with Turmeric (4,5). The carriage of HLA B*35:01, as in the case of our patient, may be a risk factor for liver injury caused by several herbal components, and also could be associated with Turmeric induced DILI (1).

Although our patient presented susceptibility for AIH by being carrier of HLA DRB1*04, she was diagnosed of Turmeric DILI after the exclusion of other etiologies of liver dysfunction.

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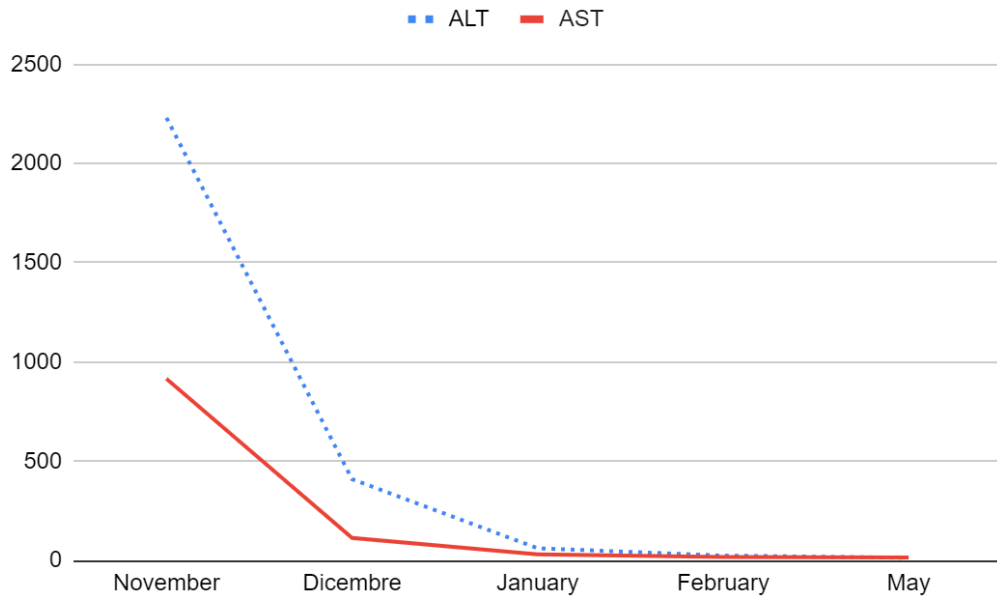


Figure 1. Biochemical trend of plasma ALT and AST over time.