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# Drug-induced liver injury associated to red yeast rice

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Dear Editor,

Hepatotoxicity is defined as a liver injury induced by a drug or a non-pharmacological agent like herbal medications or dietary supplements. This type of lesion can simulate both acute and chronic hepatic diseases.[1]

Red yeast (*Monascus purpureus*) is a filamentous fungus that grows over the white rice giving rise to a fermented product called red yeast rice (RYR). RYR is rich in monacolin K, which has the same chemical structure as lovastatin, recognized as an inhibitor of HMG-CoA reductase. Monascus-fermented rice has been used for the management of hiperlipidemia due to its capacity reducing hepatic cholesterol biosynthesis.[2]

**Clinical case**

A 62 years old woman diagnosed with subclinical hypothyroidism and lymphocytic colitis with mesalazine as maintenance treatment presented to the emergency service with 38.5ºC fever, coluric orine and loss of weight in the previous 3 weeks. The patient was taking RYR since the week before to the initial symptoms trying to reduce cholesterol levels. Physical examination was normal, without signs of hepatic encephalopathy.

Hepatic dysfunction with conjugated hyperbilirubinemia (4md/dl), hypertransaminasemia between 700 and 900 UI/L and modest cholestasis without coagulopathy were found in laboratory tests. Abdominal ultrasound demonstrated a morphologically normal liver with no dilatation of the biliary tract, also confirmated with magnetic resonance cholangiography. The definitive diagnosis was mixed hepatocellular and cholestatic acute hepatitis.

Autoimmune liver serology resulted positive for anti smooth muscle antibody (1/160), anti filamentous actin antibody and fine speckled antinuclear antibody (1/164). Proteinogram, blood smear, direct coombs test and immunoglobulins were within normal limits. Total DILI RECAM Score was 8 (highly probable DILI). Conservative treatment with exclusion of RYR was decided and the patient could be discharged. During one year follow-up bilirubin and transaminases gradually dropped off to persistent normal values.

**Conclusion**

It has been reported a few cases of hepatitis associated to the use of RYR, whose mechanism of action is promoted by a toxic or immunogenic secondary metabolite (allergic immune-mediated hypersensitivity or non-allergic metabolic injury) and the enzymatic elevations are very close to those found during lovastatine therapy.[1]

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So, when autoantibodies are positive, specially anti smooth muscle, hepatotoxicity should not be discard as a diagnose because cross-reactions may justify serology alterations and the treatment is likewise the withdrawal of RYR.[3]

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