Learning Objective

- Recognize herbal medication as an important cause of hepatotoxicity.
- Manage liver injury induced by herbal medication use.

Case Report

A healthy 25-year-old Hispanic female with a BMI of 25 presented with headaches, dizziness and generalized weakness.

- Physical examination was normal and a review of systems was negative. Initial lab workup revealed mildly elevated liver transaminases. Her liver panel had been normal previously.
- Three months later, she still reported generalized weakness and liver transaminases had tripled. A comprehensive assessment of secondary causes of elevated transaminases was unremarkable.
- Ultrasound demonstrated a previously unidentified (figure 1) moderate-to-severe diffuse fatty infiltration. Additional inquiry revealed a history of occasional consumption of rue (Ruta spp.) for relief of abdominal pain (figure 2).
- Discontinuation of herbal medication use resulted in normalization of liver enzymes and significant improvement in fatty liver infiltration (figure 3).

Imaging

FIGURES 1A & 1B Abdominal ultrasound scan in August 2010 showing normal liver size and echotexture.

FIGURES 2A & 2B Abdominal ultrasound scan in October 2014 showing hepatomegaly and moderate-to-diffuse fatty liver infiltration.

FIGURES 3A & 3B A follow-up abdominal ultrasound scan in March 2015 showing normal liver size with significant improvement in fatty liver disease with discontinuation of herbal medication.

Discussion

Reporting of adverse events due to herbal medication is not mandatory and infrequently done. Ruta graveolens or rue is commonly used as an anti-inflammatory, abortifacient, and anti-nociceptive agent in many countries. The literature is sparse on rue toxicity. However, available case reports and animal studies include reports of hepatotoxicity. Herbal medication induced hepatotoxicity may present with elevated transaminases, jaundice, acute liver failure or cirrhosis. The pattern of liver injury is frequently hepatocellular, although a cholestatic, mixed, or vascular pattern can also be seen.

Eliciting a history of herbal medication is necessary when identifying the etiology of a liver injury. A nonjudgmental approach is vital as patients may not be unwilling to discuss herbal use. Patient education on potential adverse effects and interactions is essential.

In attributing liver injury to herbal supplement use, it is crucial to exclude any preexisting liver disease and demonstrate a temporal relationship between exposure and onset of liver injury. Improvement of liver injury after discontinuation of herbal use supports the diagnosis. Withdrawal of suspected toxin remains the mainstay of therapy while advanced disease requires supportive therapy.

References