Introduction

Garcinia cambogia (G. cambogia) was an ingredient in several Hydroxycut weight-loss supplement formulations and is also marketed as a stand-alone weight-loss supplement. It has been postulated to be involved in the pathogenesis of Hydroxycut-induced liver injury. However, few cases have been reported with pure G. cambogia supplements causing liver injury. Here, we present a case of acute liver injury secondary to G. cambogia use.

Case description

A 56-year-old Caucasian woman presented with 1 week of jaundice and fatigue. She denied taking any prescription or over-the-counter medications. Social history was negative for any infectious exposures. She had a 20-pack-per-year smoking history and drank 1 to 2 alcoholic beverages per day.

On exam, vital signs were normal, and scleral icterus and diffuse jaundice were noted. Total bilirubin was 22, alkaline phosphatase was 290, alanine aminotransferase (ALT) was 1276, aspartate aminotransferase (AST) was 886, and international normalized ratio (INR) was 1.05. Hepatitis C virus (HCV) IgG was positive with an HCV RNA level of 196,815 IU/mL. Additional labs were negative for other infectious autoimmune conditions and for genetic causes of hepatitis, including hemochromatosis, alpha-1-antitrypsin deficiency, and Wilson’s disease. Magnetic resonance imaging (MRI) revealed no hepatic lesions or biliary tract abnormalities.

On further questioning, the patient endorsed taking G. cambogia weight-loss supplements twice daily for 3 months prior to symptom onset. N-acetylcysteine (NAC) treatment was empirically started. Liver biopsy demonstrated evidence of cholestatic hepatitis consistent with autoimmune or drug-related etiologies, which were most likely drug-related given the clinical history and negative autoimmune serologies. The patient was discharged on hospital day 4 and advised to discontinue G. cambogia and to avoid alcohol. Liver enzymes and bilirubin slowly improved with supplement discontinuation. Seven weeks after discharge, liver enzymes had normalized. At 3- and 6-month follow-up, HCV RNA was also undetectable.

Discussion

G. cambogia supplements are derived from a fruit native to Southeast Asia. The main ingredient implicated in weight loss is hydroxycitric acid, an inhibitor of a citrate cleavage enzyme, which blocks de novo synthesis of fatty acids. Cases of idiosyncratic drug-induced liver injury (DILI) attributed to herbal and dietary supplements have increased in the past decade. G. cambogia was one of the main implicated hepatotoxic ingredients in previous Hydroxycut weight-loss supplement formulations. More recently, G. cambogia has been marketed as a stand-alone weight-loss supplement, and there have been case reports of DILI associated with G. cambogia.

In this case, given the patient’s acute presentation, labs, and pathology, G. cambogia was implicated as the cause of the patient’s acute liver injury. Interestingly, the positive HCV RNA with rapid clearance at follow-up visits suggested a potential concurrent acute or chronic HCV infection that achieved spontaneous clearance. However, based on the biopsy, it was thought unlikely.

REFERENCES

that the HCV contributed to the acute liver injury, as the pathologic findings on H&E and tricrome stain were more consistent with DILI secondary to *G. cambogia* as opposed to a viral hepatitis. (Plasma cells were consistent with autoimmune hepatitis or DILI, and there were no signs of bridging fibrosis found in chronic HCV.) It is not known if a secondary hepatic inflammatory process, such as DILI in this case, contributes to spontaneous HCV clearance. This case illustrates the importance of asking patients about nonprescription drugs and supplements, particularly herbal and dietary weight-loss supplements not regulated by the Food and Drug Administration, which are increasingly recognized as an etiology for DILI.4,5

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Radical resection and reconstruction in a child with craniofacial fibrous dysplasia and Marfan syndrome

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**Case Description**

An 8-year-old male with Marfan syndrome and expansive frontal mass presented with frequent headaches and progressive left frontal and eyelid swelling.

A multidisciplinary surgical team including a pediatric neurosurgeon, an otolaryngologist, and an oculoplastic surgeon evaluated this patient for resection and reconstruction. Examination showed firm left frontal bossing and ptosis. Ophthalmologic examination did not demonstrate optic nerve compression or ophthalmoplegia. CT scan showed ground-glass opacity and expansion of the left lateral and superior fronto-orbital region (Figure 1), consistent with fibrous dysplasia.

Radical resection and reconstruction was performed using patient-specific polyether ether ketone (PEEK) implant (Figure 2).

After obtaining exposure of the lesion via coronal approach, a preformed template based on the radiographic extent of disease was used to mark the area of resection. The involved left frontal bone, orbit (extending from superior orbital fissure to inferior orbital fissure), and lateral orbital wall to zygoma were resected with careful preservation of the underlying periorbita, dura, and cranial nerves (Figure 3). The frontal sinus was cranialized to avoid intracranial-to-sinus communication, and the PEEK implant was placed.

Surgical pathology showed a benign fibro-osseous lesion with extensive osteosclerosis consistent with fibrous dysplasia (Figure 4).

**Discussion**

Fibrous dysplasia is a rare, benign bone lesion characterized by replacement of normal bone with fibro-osseous connective tissue. Lesions may be single (monostotic) or multiple (polyostotic). Craniofacial involvement is present in approximately one-fourth of the cases of monostotic disease and in half of the cases of polyostotic disease. Polyostotic disease may be part

**REFERENCES**


**Figure 1.** Ground-glass lesion of the left lateral and superior fronto-orbital region.

**Figure 3.** ALT, AST, total bilirubin and albumin trending from admission to 3 months.