

2023

A Case of Suspected Lisdexamfetamine (Vyvanse) Drug-Induced Liver Injury

Louis Kishfy, MD

Thomas Jefferson University, louis.kishfy@jefferson.edu

Justin Bilello, MD

Thomas Jefferson University, justin.bilello@jefferson.edu

Monjur Ahmed, MD

Thomas Jefferson University, monjur.ahmed@jefferson.edu

Elizaveta Flerova, MD

Thomas Jefferson University, elizaveta.flerova@jefferson.edu

Follow this and additional works at: <https://jdc.jefferson.edu/tmf>



Part of the [Internal Medicine Commons](#)

[Let us know how access to this document benefits you](#)

Recommended Citation

Kishfy, MD, Louis; Bilello, MD, Justin; Ahmed, MD, Monjur; and Flerova, MD, Elizaveta (2023) "A Case of Suspected Lisdexamfetamine (Vyvanse) Drug-Induced Liver Injury," *The Medicine Forum*: Vol. 24, Article 12.

DOI: <https://doi.org/10.29046/TMF.024.1.011>

Available at: <https://jdc.jefferson.edu/tmf/vol24/iss1/12>

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's [Center for Teaching and Learning \(CTL\)](#). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in The Medicine Forum by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: JeffersonDigitalCommons@jefferson.edu.

A Case of Suspected Lisdexamfetamine (Vyvanse) Drug-Induced Liver Injury

Louis Kishfy, MD¹, Justin Bilello, MD¹, Monjur Ahmed, MD², Elizaveta Flerova, MD³

1. Internal Medicine Residency, Department of Medicine, Thomas Jefferson University Hospital, Philadelphia, PA
2. Division of Gastroenterology & Hepatology, Department of Medicine, Thomas Jefferson University Hospital, Philadelphia, PA
3. Department of Pathology & Genomic Medicine, Thomas Jefferson University Hospital, Philadelphia, PA

INTRODUCTION

Amphetamines are a well-established cause of liver injury though the typical presentation is that of illicit drug abuse rather than liver injury occurring in a prescribed setting.¹ Lisdexamfetamine (Vyvanse) is one of the most commonly prescribed stimulant medications used for the treatment of Attention Deficit Hyperactive Disorder (ADHD). The authors were only able to find a single case of lisdexamfetamine-related drug-induced liver injury (DILI) occurring in the pediatric population in their review of the literature. Here we present a case of suspected lisdexamfetamine DILI in an adult patient.

CASE DESCRIPTION

A 47-year-old male presented with several days of abdominal pain and nausea.

His past medical history included gastroesophageal reflux disorder, Barrett's Esophagus, and ADHD. Notable past surgical history included a hemorrhoidectomy. Home medications included lisdexamfetamine and omeprazole. He did not take any herbal or supplement medications. He had no personal or family history of liver disease.

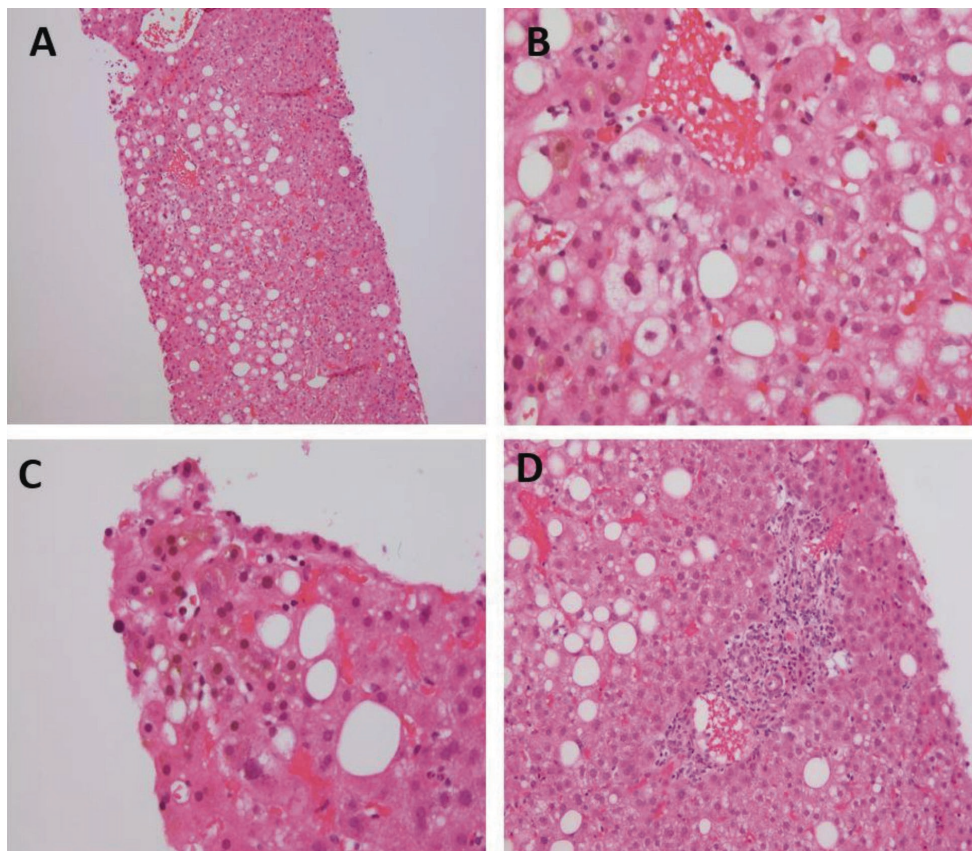


Figure 1: A. Hepatocyte swelling in Zone 3; B and C. Zone 3 hepatocellular and canalicular cholestasis with swelling and feathery degeneration of hepatocytes; D. Portal tracts with mild mixed inflammatory infiltrate. Bile duct damage and inflammation are minimal, and there is no bile duct proliferation.

On exam, his vitals included a heart rate of 91 beats per minute, blood pressure of 137/86 mmHg, and temperature of 36.2 °C. Abdominal exam revealed right upper quadrant tenderness to palpation. Labs revealed a total bilirubin of 4.0 mg/dL, alkaline phosphatase of 135 IU/L, aspartate transaminase of 217 IU/L, alanine transaminase of 189 IU/L. Peak values for those labs were 12.1 mg/dL, 248 IU/L, 291 IU/L, and 543 IU/L, respectively. Other labs included an international normalized ratio of 1.16 and a platelet count of 342,000/uL. The patient underwent a thorough serologic evaluation to assess for underlying liver disease. The workup, which included assessing for autoimmune, infectious, and metabolic etiologies for his presentation, was unrevealing.

During his hospital course, the patient underwent a right upper quadrant abdominal ultrasound, computed tomography of the abdomen and pelvis, hepatobiliary iminodiacetic acid scan, and magnetic resonance imaging abdomen with magnetic resonance cholangiopancreatography. In sum, imaging demonstrated cholelithiasis with mild thickening of the gallbladder without findings of cholecystitis and with a normal-appearing biliary tree. The patient's liver function tests continued to rise, so he ultimately underwent a liver biopsy (**Figure 1**). The liver biopsy revealed cholestatic hepatitis with zone 3 hepatocellular and canalicular cholestasis consistent with DILI.

Lisdexamfetamine was held during his hospital stay and ultimately discontinued on discharge, given concern for DILI. His liver function tests are slowly improving as an outpatient.

DISCUSSION

This case highlights a novel presentation of DILI associated with lisdexamfetamine. On review of the literature, the authors were unable to find a previously described association in the adult population.

REFERENCES

1. LiverTox: Clinical and Research Information on Drug-Induced Liver Injury [Internet]. Bethesda (MD): National Institute of Diabetes and Digestive and Kidney Diseases; 2012-. Amphetamines. [Updated 2021 Aug 25]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK548941/>.
2. Hood B, Nowicki MJ. Eosinophilic hepatitis in an adolescent during lisdexamfetamine dimesylate treatment for ADHD. *Pediatrics*. 2010;125(6):e1510-e1513. doi:10.1542/peds.2009-1835.