

Introduction

- ◆ Fluoxetine is a widely prescribed antidepressant with predominant hepatic metabolism
- ◆ Side effects include nausea, vomiting, and dyspepsia
- ◆ Less than 1% of patients taking fluoxetine develop a mild, self-limited transaminitis
- ◆ Rarely, patients develop clinically significant DILI leading to drug discontinuation
- ◆ DILI is a diagnosis of exclusion reached with a thorough history, physical exam, and lab testing
- ◆ Risk factors for DILI include female sex, alcoholism, chronic liver disease, and drug interactions
- ◆ Treatment includes drug discontinuation and supportive care

Case Description

- ◆ A 28-year-old male presented with acute onset of RUQ pain, nausea, jaundice, and scleral icterus
- ◆ He had schizophrenia and bipolar I disorder treated with chronic citalopram and olanzapine
- ◆ Fluoxetine 20 mg daily was started 5 days prior
- ◆ He denied use of alcohol, recreational drugs, or herbal supplements
- ◆ On exam, he was alert and oriented x4 with jaundice, scleral icterus, and asterixis
- ◆ Lab work was remarkable for AST 3,219, ALT 6,574, ALP 181, total bilirubin 22.9, and INR 1.97
- ◆ Fluoxetine was held and N-acetylcysteine given

Lab Work

Admit Day	Serum labs					
	AST	ALT	ALP	Total bilirubin	Platelet	INR
0	3,219	6,574	191	22.9	235,000	1.97
1	1,408	3,220	144	28.6	192,000	1.77
2	641	2,846	135	29.5	174,000	1.34
4	210	1,359	162	36.7	156,000	1.07
6	119	703	143	29.2	162,000	0.99
8	91	421	136	14.6	180,000	0.97
10	91	232	133	11.2	309,000	0.98

Table 1. Select patient lab work from admission (day 0) to discharge (day 10)

Histology

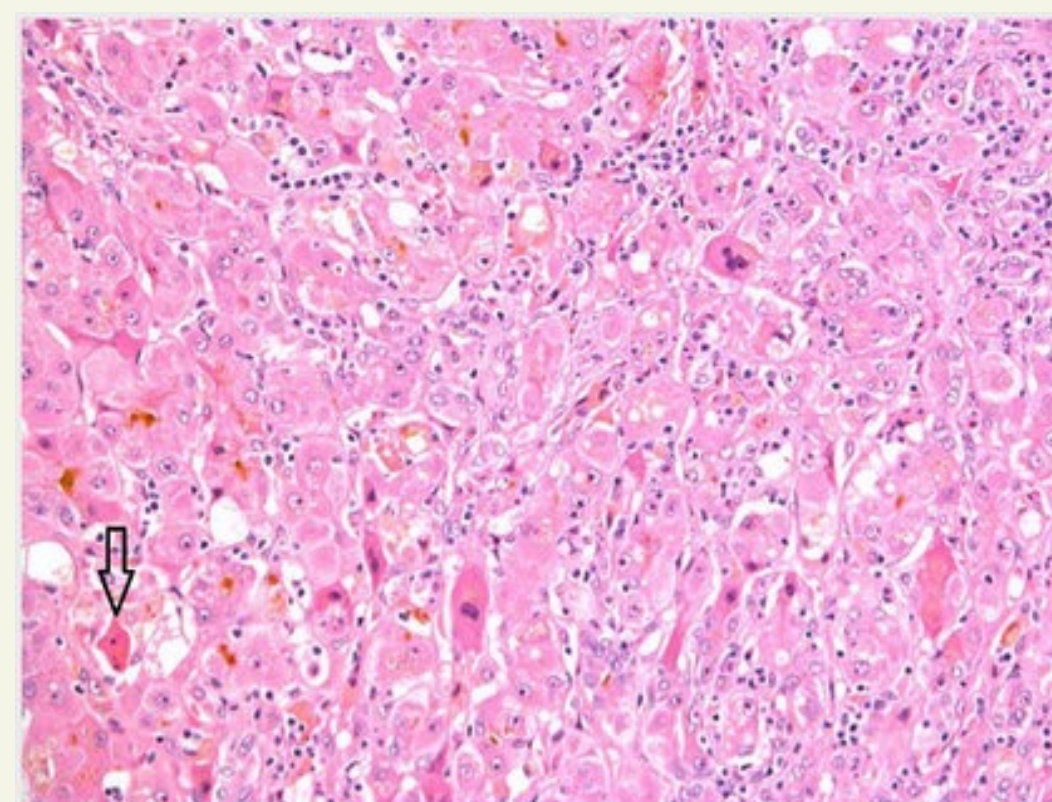


Figure 1. Liver biopsy showing cholestasis with lobular disarray, lymphocytic infiltration, and scattered ballooned hepatocytes

Image citation: Boyd, Alexander, et al. "Medical Liver Biopsy: Background, Indications, Procedure and Histopathology." *Frontline Gastroenterology*, vol. 11, no. 1, Mar. 2019, pp. 40-47., <https://doi.org/10.1136/flgastro-2018-101139>

Clinical Course

- ◆ Unremarkable salicylate and acetaminophen levels
- ◆ MRCP showed fatty infiltration of the liver without nodularity or biliary dilation
- ◆ Work-up for viral hepatitis, EBV, CMV, HIV, hemochromatosis, Wilson's disease, and autoimmune hepatitis was unremarkable
- ◆ On hospital day 8, a liver biopsy was performed
- ◆ Pathology was consistent with mixed-pattern DILI
- ◆ Labs improved and patient's symptoms resolved
- ◆ Patient was discharged on hospital day 10

Discussion

- ◆ In rare cases, fluoxetine precipitates symptomatic DILI likely through direct cellular injury (i.e. idiosyncratic metabolic DILI)
- ◆ It is unclear whether polypharmacy (from psychiatric medications) or underlying hepatic steatosis contributed to DILI development
- ◆ As less than 1% of patients on fluoxetine develop transaminitis, routine liver function monitoring is not recommended

Conclusion

- ◆ Practitioners should remain aware that SSRIs can precipitate DILI in both acute and chronic use
- ◆ Further research is needed to clarify future antidepressant selection in patients after SSRI-induced DILI