

Severe olanzapine-induced liver function test elevation

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Dear Editor:

We read with great interest the case report¹ on identifying olanzapine-induced liver injury in the setting of acute hepatitis C. We wanted to bring to the attention of the *Mental Health Clinician* readers our similar case report entitled “Olanzapine-induced elevated liver function tests in an older person with antidepressant-induced mania”, who similarly experienced significant liver function test (LFT) elevation thought to be related to olanzapine that was published in *The Senior Care Pharmacist* in September 2022.²

Although an increase in LFTs is a known adverse effect of antipsychotics including olanzapine, this is an underappreciated adverse effect, especially as the LFT elevation can be severe. Furthermore, there is no standard of care for monitoring LFTs at baseline or how frequently during antipsychotic treatment LFTs should be monitored.

Brelje et al¹ cites that olanzapine-induced liver injury has been shown to occur anywhere from 12 days to 8 years after initiating olanzapine, which is similar to what we found in published reports.^{1,2} In the case that Brelje et al reported, LFT elevation occurred after 6 days of olanzapine therapy and ALT peaked at 1510 IU/L.¹ This is similar to the case recently published in *The Senior Care Pharmacist* of a 67-year-old male where LFT elevation began on day 6 of olanzapine treatment and peaked on day 8 with an AST of 2024 IU/L and ALT of 1508 IU/L.²

If drug-induced liver injury or adverse effects of antipsychotics are topics of interest to the reader, we encourage you to read the Brelje et al¹ article in the *Mental Health Clinician* as well as the Reid et al² article in *The Senior Care Pharmacist*. The latter article reviews potential mechanisms

of olanzapine-induced LFT elevation such as via a toxic intermediary metabolite or in relation to nonalcoholic fatty liver disease.² Reid et al² also summarizes 9 additional cases of olanzapine-induced LFT elevation.

Brelje et al¹ cites “large psychiatric professional societies have refrained from recommending widespread asymptomatic testing”^(p213) of hepatic enzymes. However, both articles highlight how significantly elevated LFTs can become within 1 week of starting olanzapine treatment. We encourage readers to incorporate baseline monitoring and consider rechecking within 1 to 2 weeks of initiation with continued monitoring of LFTs in patients treated with antipsychotics including olanzapine into their routine practice.

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