

# Gestational Diabetes and Olanzapine: A Silent Time Bomb?

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## BACKGROUND

- Olanzapine, often used as a mood stabilizer, can be given in conjunction with lithium to treat postpartum psychosis (PPP).
- Patients with gestational diabetes and hypertension in pregnancy are at an elevated risk of developing type 2 diabetes (DM).<sup>1</sup>
- Olanzapine has been implicated in acute, new-onset diabetic ketoacidosis (DKA) or hyperosmolar hyperglycemic state (HHS), without history of DM.
- Olanzapine has also been associated with acute, new-onset pancreatitis (AP) without symptoms.
- Discontinuation of olanzapine typically leads to the normalization of laboratory values.<sup>2,3</sup>

## CASE

with husband and 3 children, recent URI currently treated with azithromycin, who presented with altered mental status for the past week.

**Past Psychiatric History:** schizoaffective disorder, bipolar type, distant suicide attempt (age 14), >10 lifetime psychiatric hospitalizations, most recently for postpartum psychosis about one month following delivery (5/31 - 6/20/23).

**Past Medical History:** HTN, OSA, gestational diabetes and hypertension during most recent pregnancy (resolved postpartum).

**Current Medications:** lithium 600mg BID, bupropion XL 300mg daily, olanzapine 20mg nightly. Metabolic monitoring every 6 months.

## CLINICAL QUESTION

**Should olanzapine be avoided in patients with a history of gestational diabetes?**

Lab	Prior monitoring	Presentation
Glucose	96	1,992
Lipase	33	>2,000
Triglycerides	105	453

Fig. 1: Notable labs from prior monitoring and ED presentation

## HOSPITAL COURSE

- **ED Course:** Stroke code called in ED; negative. Patient found to be in HHS, with AKI and acute pancreatitis (positive CT findings) without abdominal pain. A1c was 13.8. Patient was intubated and admitted to the ICU.
- In the ED, the patient was initiated on an insulin drip and intubated. She was admitted to the ICU and extubated after 4 days. Olanzapine was restarted, Li was held due to AKI.
- Seen by CL Psychiatry, recommended to stop olanzapine, continue to hold Li and bupropion. Lipase and lipids normalized once olanzapine was stopped. Medically, SQ insulin initiated.
- On hospital day 6, patient transferred to medical floor.
- Patient initiated on aripiprazole and titrated up to 15mg/day. Li restarted and increased to 450mg BID.
- On hospital day 9, patient discharged home.

## DISCUSSION

- This patient's prenatal course elevated her risk of developing type 2 DM.<sup>1</sup>
- PPP is understood to be part of the bipolar diathesis and lithium is a first-line treatment, often in conjunction with faster-acting antipsychotics such as olanzapine.
- This patient was on a 6-month metabolic monitoring schedule and there were no overt warning signs noted on the last labs.
- Though blood glucose normalizes in the vast majority olanzapine-induced AP and DM once the olanzapine is stopped, this patient is now insulin-dependent.
- It is possible that the intrapartum insult to the pancreas increased the likelihood of triglyceride-induced pancreatitis leading to HHS and ongoing DM.

## TAKE AWAYS

- In patients with resolved gestational DM, consider an alternative antipsychotic instead of olanzapine.
- Patients with resolved gestational diabetes may require more frequent metabolic monitoring than patients without risk factors.

## REFERENCES

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