Can Compazine Kill? Suicidal Intent after Prochlorperazine Use in a Patient with Cholangitis

Giang Ha, MTM[1]; Marc Levine, BS[1]; Scott Weismiller, DO MS[2]
Penn State College of Medicine[1], Department of Internal Medicine[2]; Penn State Milton S. Hershey Medical Center

Background

Prochlorperazine

- Mechanism of action: Dopamine receptor antagonist; also blocks histaminergic, cholinergic, and noradrenergic receptors
- Indications: first-generation antipsychotic [1], migraines (off-label) [2,3], **antiemetic** [4]
- Similar efficacy as an antiemetic with metoclopramide, ondansetron, promethazine [4]
- Adverse effects: **Extrapyramidal symptoms (EPS)** akathisia, Parkinsonism, and tardive dyskinesia; lower seizure threshold; anticholinergic side effects – anorexia, constipation, blurred vision, dry mucosa, urinary retention; lower seizure threshold; prolonged QTc; orthostatic hypotension; effects from dopamine blockade in tuberoinfundibular tract (e.g. hyperprolactinemia); leukopenia; agranulocytosis; cholestatic jaundice, fatty liver [1]
- EPS can manifest as **anxiety, depression, and catatonia.** [5] No reports have shown that this symptom has presented as suicide-like behavior
- Contraindicated conditions: epilepsy, hypothyroidism, liver dysfunction, renal dysfunction, pheochromocytoma
- Contraindicated medications: antidepressants, antihypertensives, anticonvulsants
- No studies have looked at specific adverse effects in patients with liver or biliary disease
- To our knowledge, this is the first case of prochlorperazine causing severe akathisia leading to suicidal intent

Case Presentation

- 38 y/o F presented to the ED with right upper quadrant abdominal pain, nausea, and fever
- Past Medical History: Pancreatic divisum status post Whipple in 2014, recurrent cholangitis from biliary anastomotic stricture, secondary sclerosing cholangitis secondary to R hepatic artery embolization
- Past Psychiatric History: Depression (began in late adolescence), well-controlled on mirtazapine
- Labs: elevated LFTs – ALT 578, AST 413, Alk Phos 587
- Admitted to floors, scheduled for ERCP next day to evaluate cholangitis.
- Morning after admission: she was given 10 mg IV prochlorperazine for nausea after requesting to not have ondansetron
- Within an hour of administration, she **felt "internal restlessness, irritability, needing to move, and anxiety."**
- This led to her **standing on a chair, sticking her hand in the sharp container, and stating that she was trying to find something sharp to kill herself.**
- Medication was discontinued. Suicide precautions, including 1:1 observation, were started. Psychiatry was consulted.
- When asked about her intentions, she responded, **"I guess stab myself."**
- During consultation, she denied current suicidal ideation and did not have suicidal ideation before receiving prochlorperazine. She stated that this was **"out of character"** and **felt embarrassed**.
- 1:1 was discontinued. She was started on ondansetron PRN for nausea, which was well-tolerated.
- She underwent ERCP with stent placement and was discharged a few days later without any further complications.

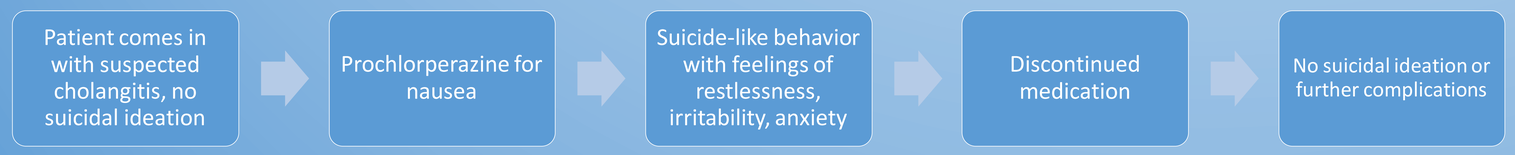

Image 1: Timeline of events

Discussion

- **First case** in the literature of a patient that had akathisia leading to impulsive suicide intent from prochlorperazine usage
- Akathisia occurs in 44% of patients that used prochlorperazine an anti-emetic [6]
- Onset of drug-induced akathisia can be within an hour [7]
- Similar case was seen in a patient who was given prochlorperazine for nausea six days after a left hepatic lobectomy
- This patient felt anxious and was shifting restlessly, and she felt like jumping out of the window. [5]
- Also denied suicidal ideation and stated that mood was not depressed. [5]
- Also improved quickly with discontinuation.

Conclusion

- Given the commonality of akathisia, potentially quick onset, and severity of akathisia as seen by our patient, **close monitoring of patients who are given prochlorperazine should be considered**
- Management should be **quick discontinuation of medication with minimal intervention** needed.

References

1. Chokhawala K, Stevens L. StatPearls [Internet]. StatPearls Publishing; Treasure Island (FL): Oct 2, 2021. Antipsychotic Medications.
2. Orr SL, Friedman BW, Christie S, Minen MT, Bamford C, Kelley NE, Tepper D. Management of Adults With Acute Migraine in the Emergency Department: The American Headache Society Evidence Assessment of Parenteral Pharmacotherapies. Headache. 2016 Jun;56(6):911-40.
3. Bachur RG, Monuteaux MC, Neuman MI. A comparison of acute treatment regimens for migraine in the emergency department. Pediatrics. 2015 Feb;135(2):232-8.
4. Furyk JS, Meek RA, Egerton-Warburton D. Drugs for the treatment of nausea and vomiting in adults in the emergency department setting. Cochrane Database Syst Rev. 2015 Sep 28;(9):CD010106.
5. Rodgers C. Extrapyramidal side effects of antiemetics presenting as psychiatric illness. Gen Hosp Psychiatry. 1992 May;14(3):192-5. doi: 10.1016/0163-8343(92)90082-I. PMID: 1601295.
6. Sharma AN, Steinberg K, Nelson LS. Akathisia and Prochlorperazine. Ann Emerg Med. 2000 Aug;36(2):169-170. doi: 10.1067/mem.2000.108179. Epub 2009 Jan 8. PMID: 33271664.
7. Chung WS, Chiu HP. Drug-induced akathisia revisited. Br J Clin Pract. 1996 Jul-Aug;50(5):270-8. PMID: 8794604.