

Akathisia Associated With Metoclopramide Administration During Cesarean Delivery Successfully Treated with Dexmedetomidine: A Case Report

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Background

- Perioperative nausea and vomiting is a significant risk of cesarean delivery with up to a 73.6-80% prevalence. Multimodal approaches to nausea have been most successful at managing this complication. Metoclopramide is commonly used but may cause extrapyramidal side effects such as akathisia, a feeling of restlessness often with accompanying movements. This is usually described in chronic metoclopramide use. In 30% of patients, it occurs within days of chronic administration, with less severe forms manifesting as isolated anxiety.

Purpose

- We present a patient with significantly increased intraoperative restlessness and anxiety temporally related to the administration of metoclopramide.

Case Presentation

A 37-year-old (G3P0020) female with a history of uterine fibroids and multiple myomectomies underwent a cesarean delivery for suspected placenta accreta. Initially in the operating room, she reported a verbal anxiety score of 3/10 and appeared calm. After IV ondansetron, a spinal anesthetic was placed. She was positioned supine and continued to appear calm. A metoclopramide 10 mg IV bolus was administered. Shortly afterward, she experienced significant anxiety (7/10) and restlessness. A dexmedetomidine 4 mcg IV bolus was then administered. Within 3 minutes, she reported a reduction in her restlessness and anxiety (5/10) and declined further treatment.

Discussion

- Anxiety has been associated with worse perioperative outcomes including higher infection rates, increased postoperative pain, and increased length of stay.
- Due to the awake nature of cesarean deliveries, parturients are at risk of anxiety.
- While akathisia is traditionally thought to occur within days of chronic administration, acute IV metoclopramide administration has also shown to induce akathisia in 20% of patients, causing patients to leave the emergency department or cancel surgery.
- Akathisia and anxiety related to metoclopramide may be under appreciated or under captured in studies or not thought of as separate from baseline anxiety. A 2012 metanalysis showed bolus metoclopramide in cesarean delivery to be effective for the prevention and treatment of nausea and vomiting. In this metanalysis, no extrapyramidal side effects were reported in 6 studies analyzed. Two studies demonstrated a variable effect on anxiety with one study showing no difference.
- When infused over 15 minutes instead of 2 minutes, the rate of akathisia and anxiety have been shown to be reduced in emergency department studies, from 29.3% to 6.5%, respectively. The rate of infusion on the incidence of akathisia and anxiety has not been studied in cesarean deliveries.
- A case report of metoclopramide induced akathisia described the use of thiopental with improvement of the patient's symptoms during cesarean delivery.
- Akathisia is often treated with beta blockers, diphenhydramine or benzodiazepines, which are relatively contraindicated in cesarean delivery. Our case used IV dexmedetomidine, which is being used more frequently in parturients, with rapid improvement in symptoms.

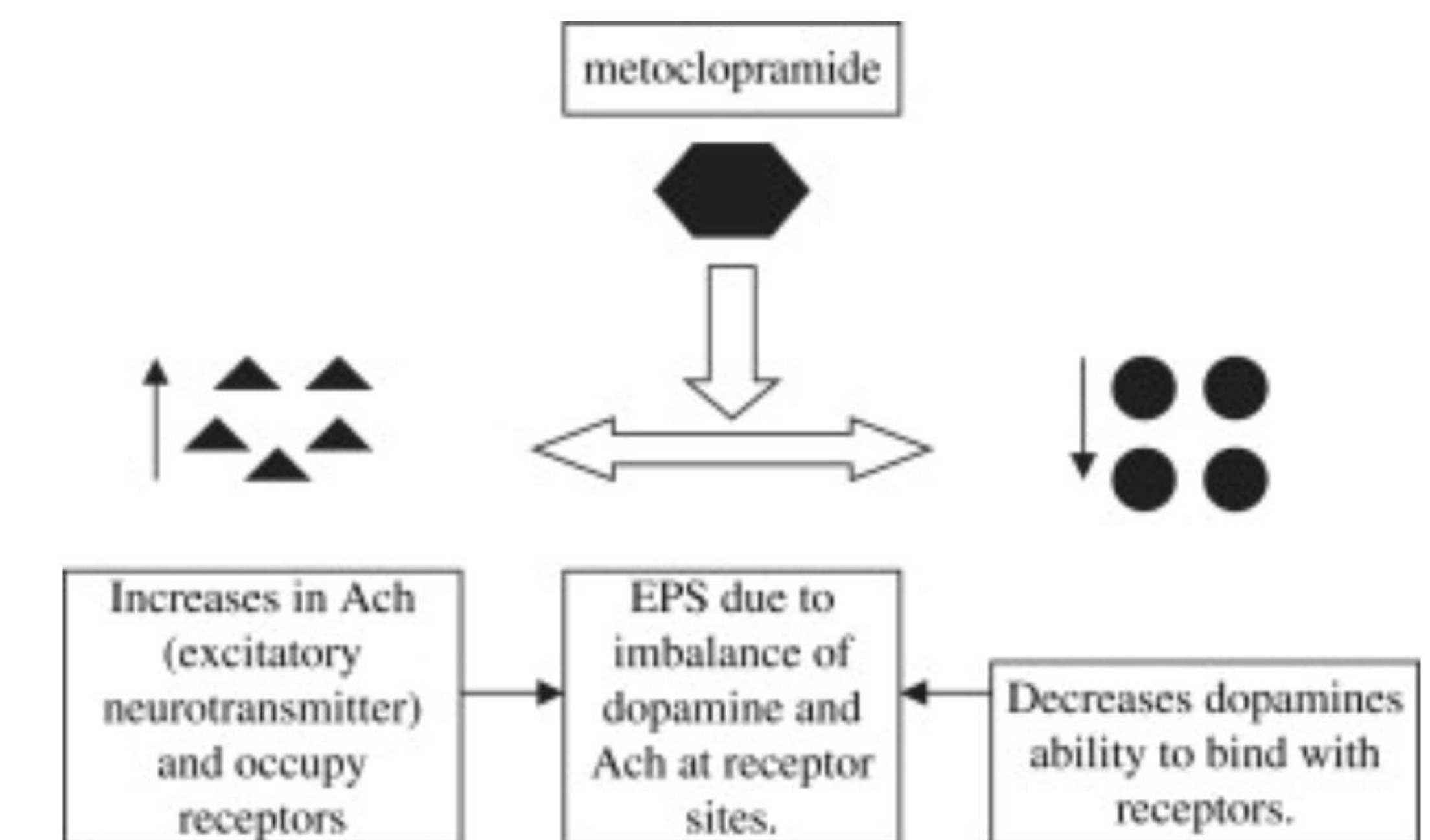


Figure 1: Mechanism of action of metoclopramide and its contribution to extrapyramidal symptoms (EPS)

Conclusion

- Akathisia and anxiety may occur with the administration of metoclopramide during cesarean delivery.
- This effect is known but is under reported.
- Preventative measures could include decreased rate of infusion of metoclopramide.
- Studies using validated scores to evaluate the incidence of akathisia and anxiety following metoclopramide in cesarean deliveries are warranted. In addition, studies investigating treatments for akathisia and anxiety are also warranted.

References

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