



Suspected Intravenous Carboprost Administration Mimicking Anaphylaxis and Severe Preeclampsia During Cesarean Delivery: A Case Report

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Medication error remain a major cause of perioperative morbidity in obstetric anesthesia.

Look-alike vials increase risk of inadvertent drug administration.

Carboprost tromethamine (Prostaglandin F_{2α} analog):

Intended Use: Intramuscular injection used for uterine atony

IV administration can cause:

- Tachycardia
- Hypertension
- Bronchospasm
- Flushing and urticaria

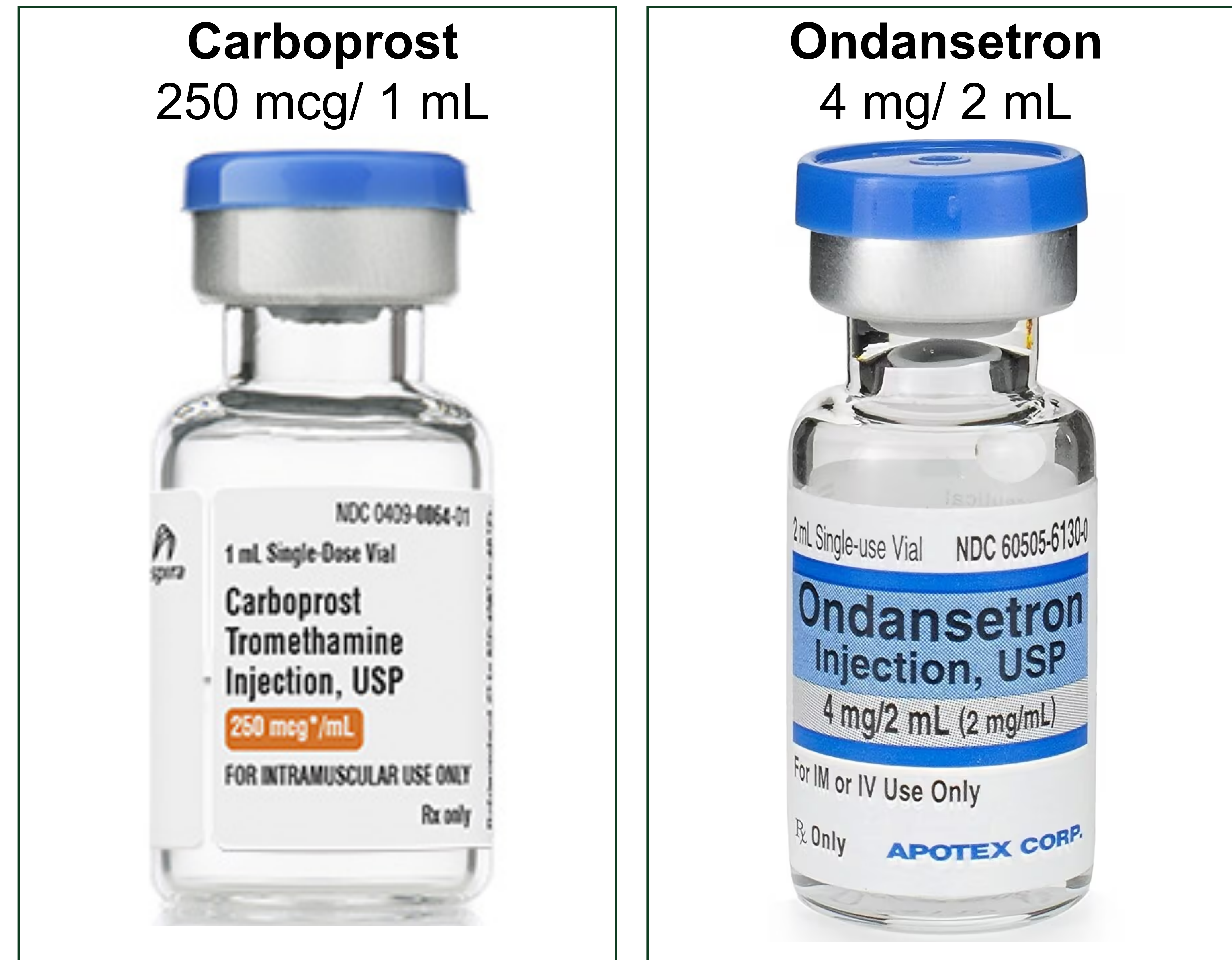
Clinical presentation of IV may mimic:

- Anaphylaxis
- Severe Preeclampsia
- Medication dosing error

Ondansetron (5HT-3 Antagonist):

Intended Use: Given IV prior to spinal anesthesia to inhibit Bezold-Jarisch reflex thus reducing hypotension and bradycardia; also reduces nausea

Figure 1: Comparison of Carboprost and Ondansetron vials





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- 30-year-old **P0000** at **40.1 weeks** presented for IOL. **PMH** autosomal dominant tubulointerstitial kidney disease and **preeclampsia without severe features**
- Subsequent need for **urgent primary low transverse cesarean delivery** for **arrest of descent after prolonged second stage**.
- A poorly functioning labor epidural was removed, and patient sat for a **combined spinal–epidural**.
 - The patient had previously tolerated epidural bupivacaine and fentanyl without complication.
 - Intrathecal medications for CSE included reduced-dose isobaric **bupivacaine** (5 mg), **fentanyl** (15 mcg), and **morphine** (100 mcg) and the patient received **ondansetron IV** (4 mg) immediately before the CSE.
- Shortly after supine positioning with left lateral tilt, the patient developed **acute tachycardia** to the 150s, **severe hypertension** (SBP >170 mmHg), **dyspnea** with normal oxygen saturation, chest and facial **urticaria**, and **fetal bradycardia**.
 - Cefazolin and phenylephrine infusion were discontinued.
 - Due to concurrent hypertension and tachycardia, epinephrine was withheld.
- **Stat cesarean delivery** was performed due to **fetal heart tones**; APGAR 6/9.
- Management included diphenhydramine, esmolol, corticosteroids after delivery, and supplemental oxygen. **Serum tryptase** was sent; 5.1 mcg/L (normal <11). Postoperatively, hypertension persisted and was treated with labetalol and magnesium sulfate with subsequent normalization of vital signs.
- Total length of hospitalization, including labor, was 3 days.



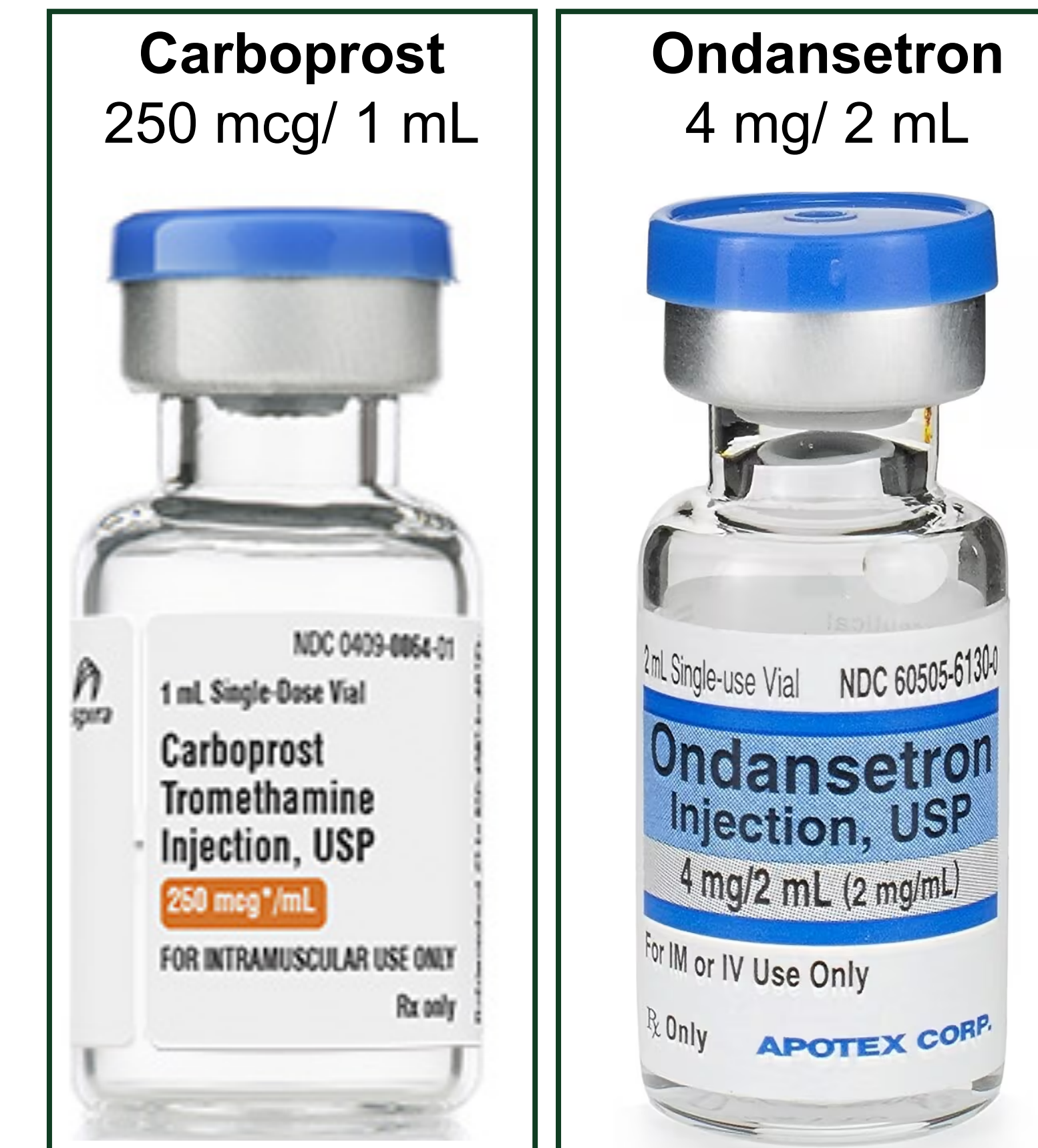
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- The differential diagnosis for this case:
 - new-onset severe preeclampsia
 - anaphylaxis or anaphylactoid reaction
 - phenylephrine dosing error
 - intravascular local anesthetic or epinephrine exposure
 - medication error
- Abrupt onset of **tachycardia, hypertension, dyspnea, and urticaria** shortly after **presumed ondansetron administration** raised concern for **inadvertent intravenous Carboprost administration**.
- This case highlights the **diagnostic challenge** of distinguishing **medication reactions from obstetric pathology** and underscores the potential for look-alike medication errors.



Standardized medication storage, labeling practices, and heightened awareness are essential to reduce the risk of inadvertent intravenous Carboprost administration and other medication errors.

High suspicion + system safeguards = safer obstetric anesthesia

