

A Case Report of Rare Complication Following Epidural Anesthesia: Unilateral Horner Syndrome and Upper Extremity Paresthesia

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BACKGROUND

- Horner syndrome is a neurologic syndrome presenting with ptosis, miosis, anhidrosis, and sometimes conjunctival injection.
- Horner's syndrome has been reported in the literature in fewer than 100 cases as a complication in obstetrics epidural due to gestation-related anatomical and physiological changes.
- It's a sign of unilateral sympathetic blockade at any point along the three-neuron adrenergic pathway and can escalate from bradycardia, hypotension, dyspnea, and dysphagia, to unconsciousness and respiratory depression.
- In this report, we present a case involving the development of unilateral Horner's syndrome following epidural anesthesia, along with accompanying tingling in the ipsilateral upper extremity.
- Our objective is to contribute to the existing literature and raise awareness among providers, with the aim of preventing potential maternal-fetal compromise.

CASE REPORT

- A 31-year-old, 38-weeks-4-days, G2P1001 woman, with a history of medical history included pre-existing hypertension, pre-eclampsia, and uterine fibroids, arrived in active labor and requested epidural. Patient reported an uneventful first pregnancy, except for pronounced left-side analgesia post-epidural which improved with right lateral decubitus position.
- Correct location of epidural catheter was confirmed by negative test dose reaction of 3 ml of 1.5% lidocaine with 1:200, 000 epinephrine and negative CSF/Heme catheter aspiration. Following 10ml of 0.125% bupivacaine bolus between L4-L5 in sitting position, patient reported a cold sensation moving cephalad to left thoracic level, accompanied by left lower extremity numbness, and left chest and upper extremity tingling.
- Within the first hour, left conjunctival injection and left mild ptosis were noted. Cranial nerves were intact. All vitals were within normal limits. Patient was diagnosed with Horner's syndrome.
- Given analgesia history, patient was counseled to remain on the right side and offered to either discontinue epidural or reduce infusion rate, while being monitored for worsening symptoms, including respiratory distress, intraoral metallic taste, perioral tingling, tinnitus, and altered mental status. Patient comprehended potential risks and benefits and opted to decrease continuous infusion rate from 12 mL/hour to 6 mL/hour. At this point, the patient reported satisfactory analgesia.
- Following the adjustment, the symptoms of conjunctival injection and mild ptosis subsided, no complications arose, and the patient underwent an uneventful vaginal delivery.

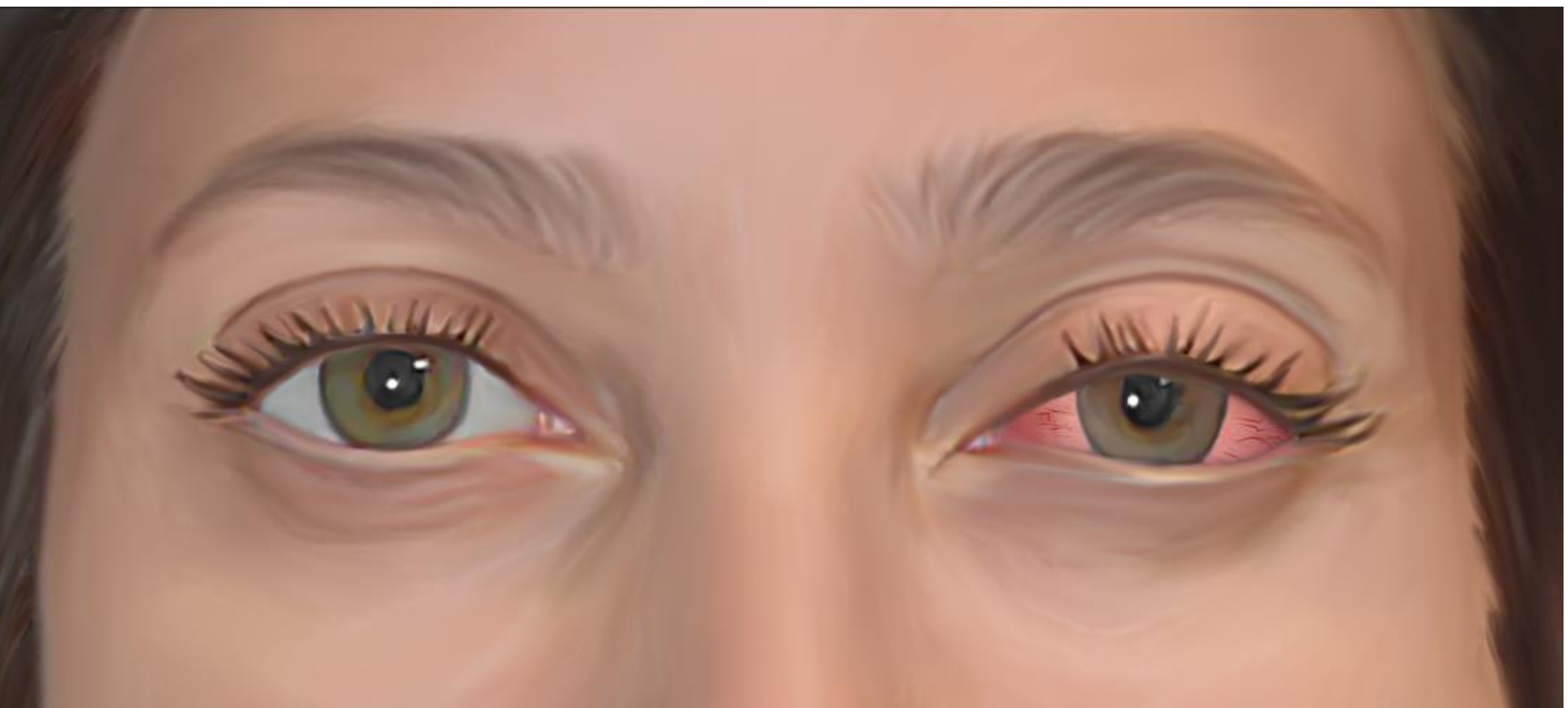


Figure 1 – Reconstructed illustration of patient's symptoms - Left conjunctival injection and left ptosis

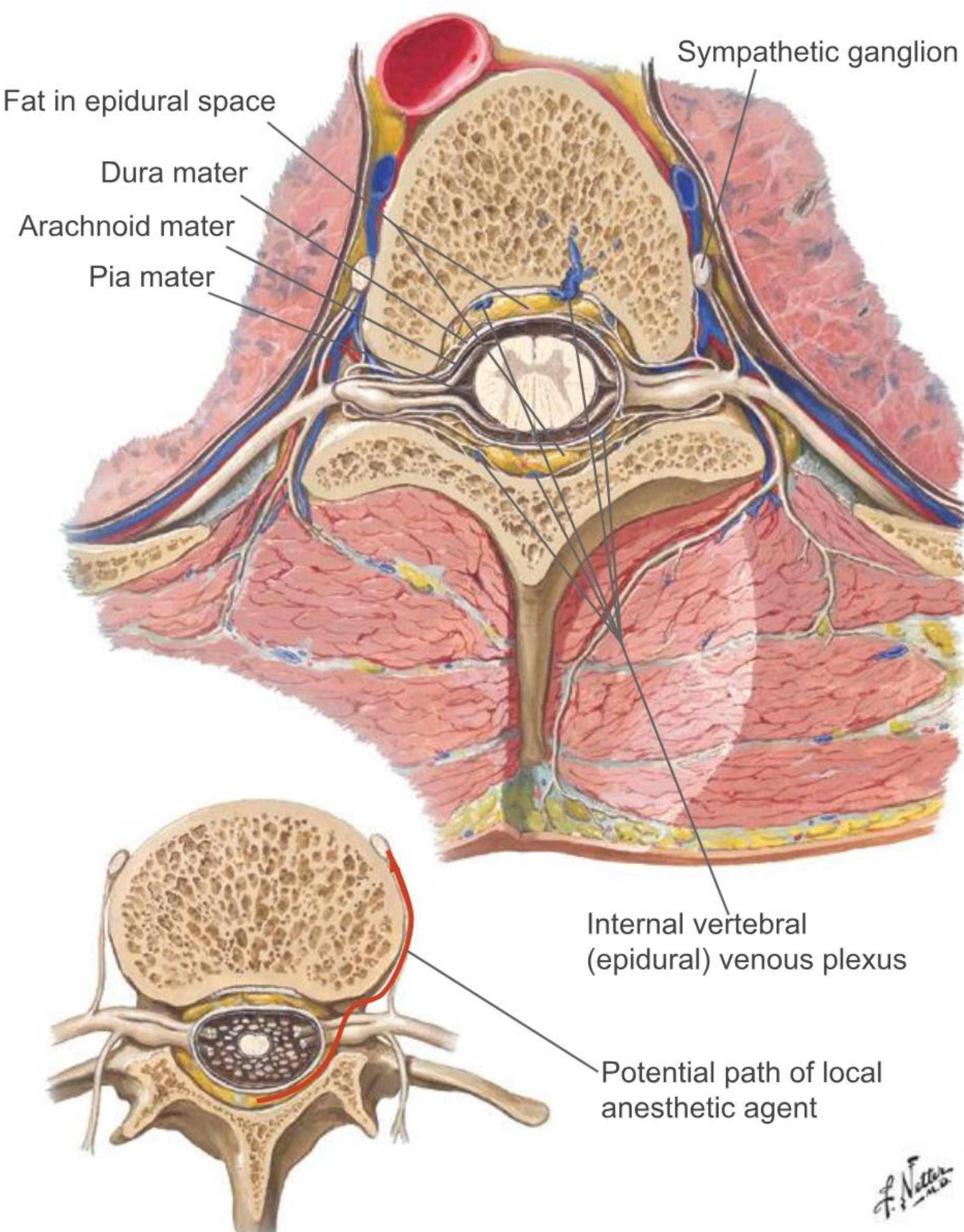


Figure 2 – Potential path of post-epidural to sympathetic ganglion

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CONCLUSION

- High neuraxial blockade, indicated by Horner syndrome, can progress to partial or total spinal anesthesia complication, commonly due to position changes, incorrect injection site, or excessive bolus in epidural space.
- Our test dose revealed no intravascular/intrathecal catheterization, which we reasonably concluded that the initial bolus was appropriately placed within epidural space.
- Left chest and upper extremity paresthesia suggested that sympathetic blockade likely extended to at least T1-T2 nerve root.
- In our patient, the symptoms resolved with reduced infusion rate and position modification which halted the cephalad spreading and allowed gravity to evenly distribute local anesthesia.
- Sympathetic blockade might be facilitated by pregnancy-related narrow epidural space from engorged veins, increased epidural pressure from uterine contractions, and sensitized nerve tissue from progesterone.
- When Horner's Syndrome occurs, appropriate analgesia without reaching total spinal anesthesia is achieved with caution to avoid compromised cardiovascular function and respiratory failure.
- Investigation is warranted if Horner's Syndrome persists despite anesthesia discontinuation.

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DISCLOSURE

- No