



Transient Horner's syndrome as a complication of cervical transforaminal epidural injection



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T2 MRI Sagittal & Axial views demonstrating right central C6-7 extrusion with high intensity zone (HIZ)

Fluoroscopic view of appropriate contrast flow pattern within the right C6-7 intervertebral foramen

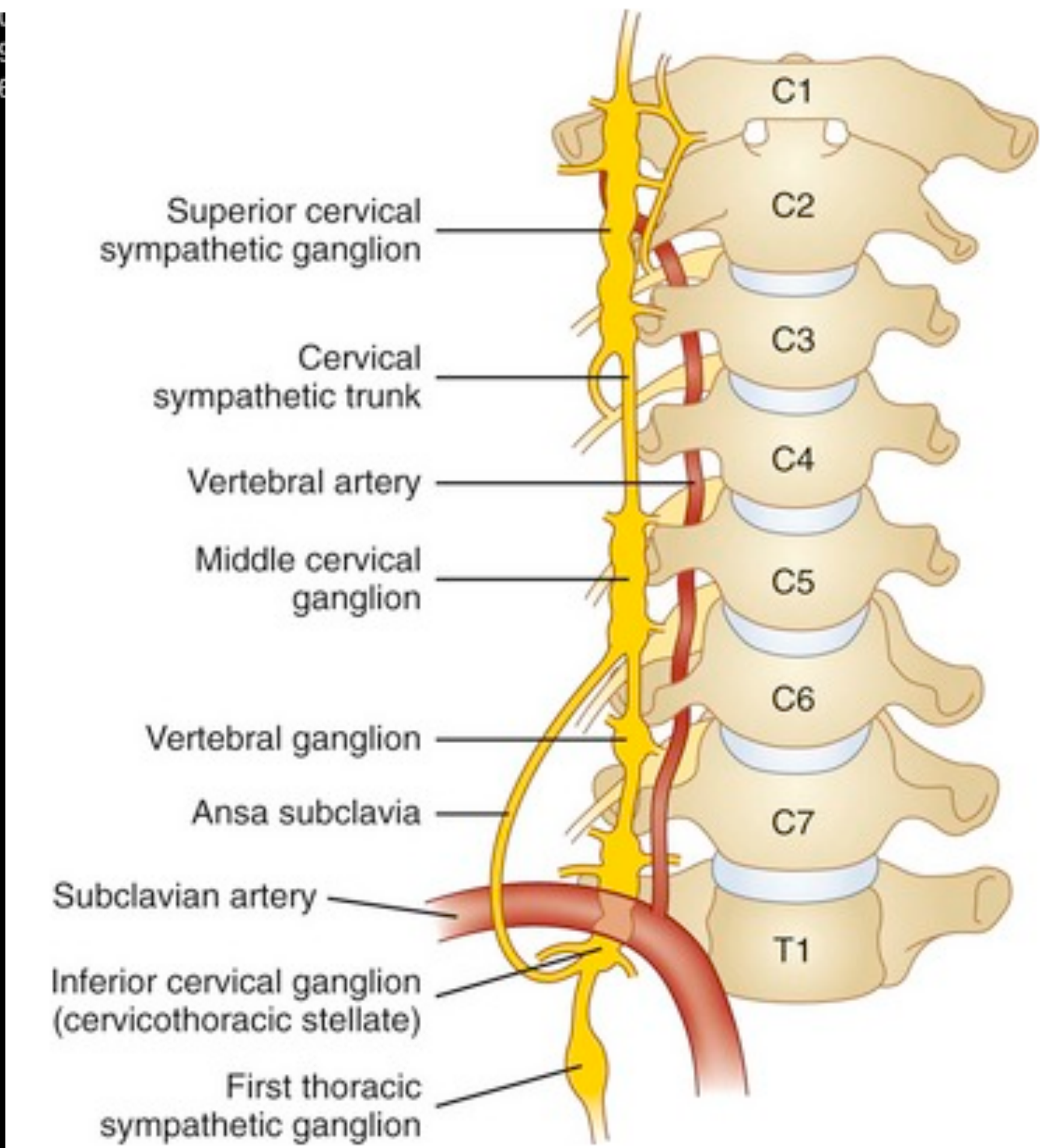


Figure: Anatomical representation of the cervical sympathetic chain

CASE DIAGNOSIS

Transient Horner's syndrome secondary to a right C6-7 transforaminal epidural steroid injection (TFESI)

CASE DESCRIPTION

40-year-old female with 3 weeks of progressively worsening right-sided neck pain with referral to her right hand

- After months of failed conservative treatment, MRI of her C-spine revealed a right C6-7 disc extrusion.
- She was treated with a right C6-7 TFESI, which was performed per Spine Intervention Society (SIS) guidelines.
- Following the injection, she reported a significant reduction in pain; however, in the post-procedural area, was observed to have right-sided ptosis and miosis.
- The patient was reassured of the transient nature of the condition and these symptoms resolved within a few hours after discharge.
- At her two-week follow up, she remained without significant pain and with no recurrence of symptoms.

DISCUSSION

- Horner's syndrome classically presents as the triad of ptosis, miosis and anhidrosis, resulting from interruption of the oculo-sympathetic pathway (1).
- Epidural anesthesia may result in pharmacologic disruption of sympathetic pre-ganglionic nerves that originate from anterior horn cells at the C8 to T1 levels (most likely 2nd order neuron). These fibers are known to be small, making them more susceptible to disruption by even small concentrations of local anesthesia (2,3,4).
- Even with visualization of appropriate contrast flow patterns prior to injection, the risk of iatrogenic Horner's syndrome remains. This is true especially when performing the injection in the lower cervical spine, due to proximity to the sympathetic fibers that originate at these levels.
- While the manifestations of Horner's syndrome discussed in this case resolved spontaneously, persistence of these symptoms would have necessitated investigation of another triggering event.
- Literature search revealed 1 prior report of permanent Horner's syndrome following cervical nerve root block – hypothesized to be a result of direct needle trauma to 2nd order sympathetic neurons as they ascend to the superior cervical ganglion (3).

CONCLUSIONS

- Physicians should be aware that TFESI in the lower cervical spine carries the risk of inducing a transient Horner's syndrome.
- It is important to be aware of the anatomical proximity of the sympathetic ganglia and the expected transient nature of the condition.

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Figure Reference

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