

Introduction

Sphenopalatine ganglion (SPG)

- Parasympathetic ganglion in the pterygopalatine fossa integrating sensory, sympathetic, and parasympathetic fibers.

Key role

- Functions in the **trigemino-autonomic reflex** contributing to cluster and migraine headache pathophysiology.

SPG block

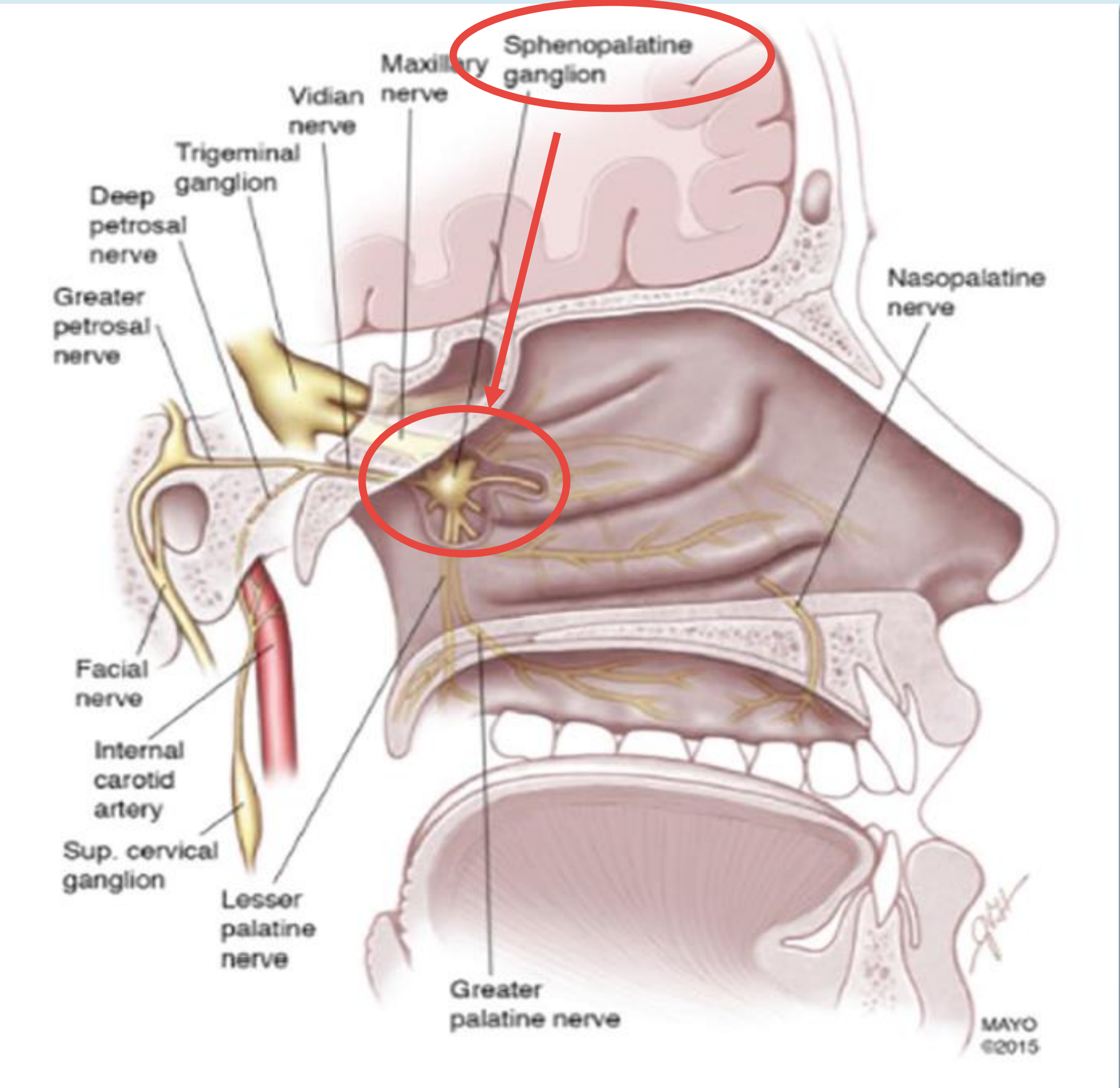
- Targets parasympathetic outflow to reduce headache, facial pain, lacrimation, and nasal congestion.

Efficacy

- Shown to **relieve cluster headaches (~85% efficacy)** and provide transient migraine relief (~24 h)

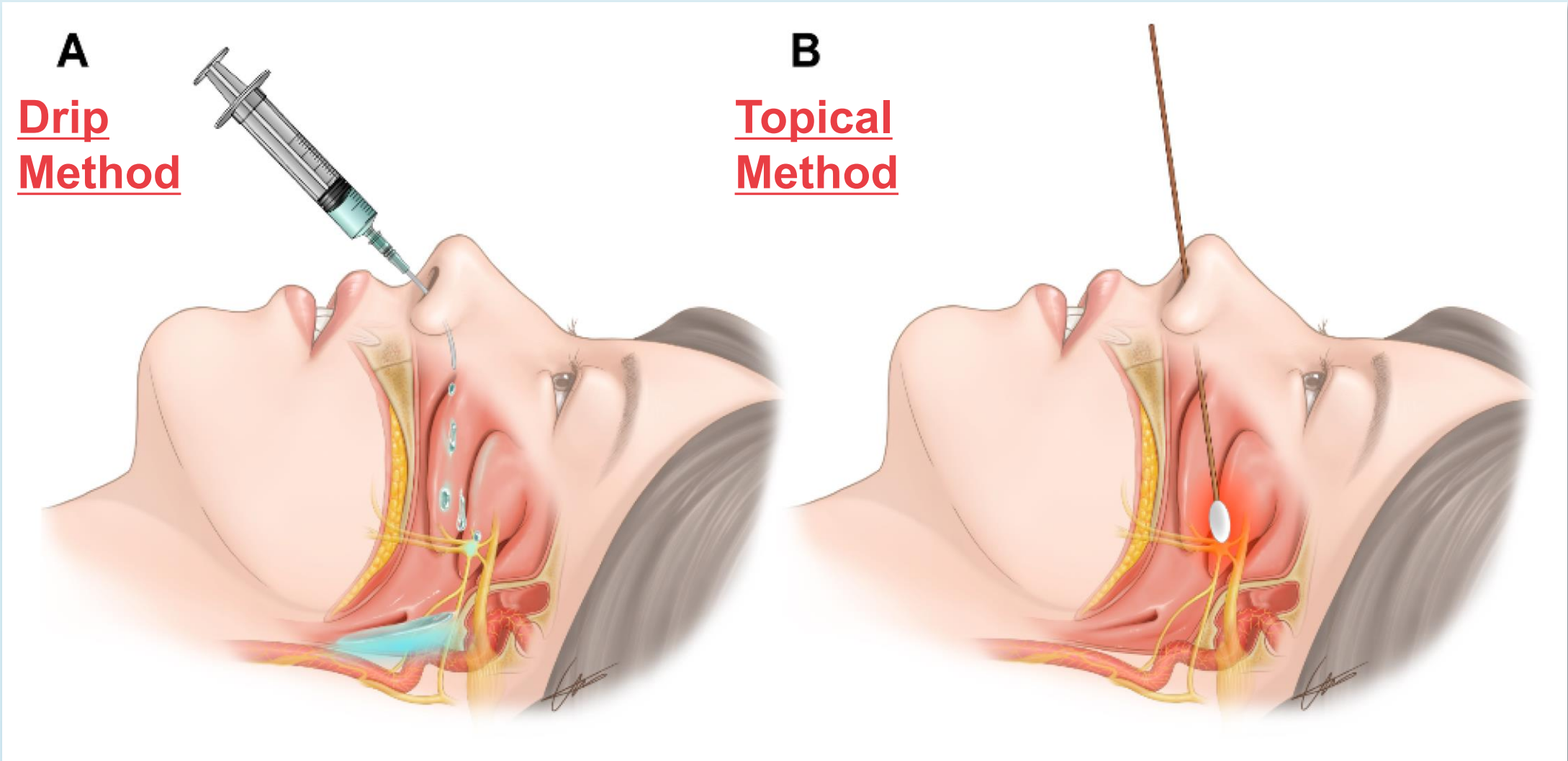
Objective

- Illustrate successful use of SPG block in a patient with **refractory headache** unresponsive to multimodal therapy.



Case Presentation

- 31-year-old female with history of idiopathic intracranial hypertension, migraines, transverse sinus stenosis, anxiety, and depression.
- Presented with **refractory right-sided temporal/frontal pressure headache** radiating to neck → chest; associated with photophobia, vision changes.
- **Prior therapies:** acetazolamide, dexamethasone, diphenhydramine, ketorolac, prochlorperazine, sumatriptan, acetaminophen, cyclobenzaprine, lidocaine patch → minimal relief.
- **SPG block procedure:**
 - Patient supine, head extended.
 - 2 mL lidocaine 2% per nostril via 18 G 1.25 in catheter.
 - Immediate pain reduction; well tolerated.
- **Outcome:** sustained improvement next day, decreased neck tension, residual mild right-eyebrow pressure; discharged without complications.
- **Contraindications:** allergy, history of facial trauma, infection, and anticoagulation



Approaches:

- Transnasal
 - Topical
 - Drip
 - Injection
- Transoral
- Infrazygomatic

References

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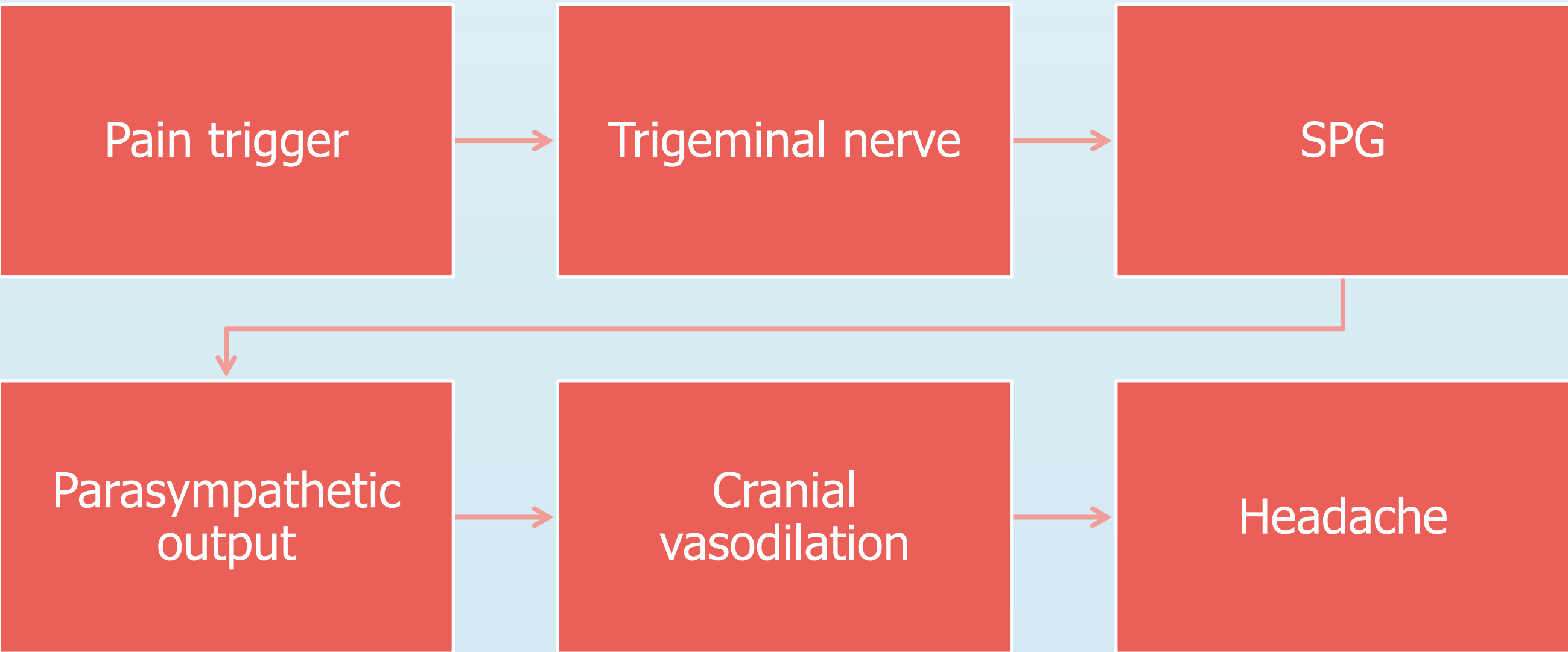
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Discussion

- SPG mediates pain via trigemino-autonomic reflex, explaining reduction of headache and autonomic symptoms.
- Contains sensory fibers (CN V2) and parasympathetic fibers (CN VII) that influence head/neck pain perception.
- Connections with upper cervical roots via superior cervical ganglion may explain relief of neck/shoulder pain.
- **SPG block is low-risk, minimally invasive, repeatable.**



Conclusions

- SPG block can effectively disrupt **refractory headache cycles**.
- Offers rapid, sustained pain relief with **minimal adverse effects**.
- Clinicians should consider SPG block early for headache syndromes unresponsive to standard therapy.
- **Future directions:** standardized protocols and comparative studies.