



U.S. Department of Veterans Affairs
Veterans Health Administration
Jesse Brown VA Medical Center

Stellate Ganglion Block:

An Interventional Option for the Treatment of Posttraumatic Stress Disorder

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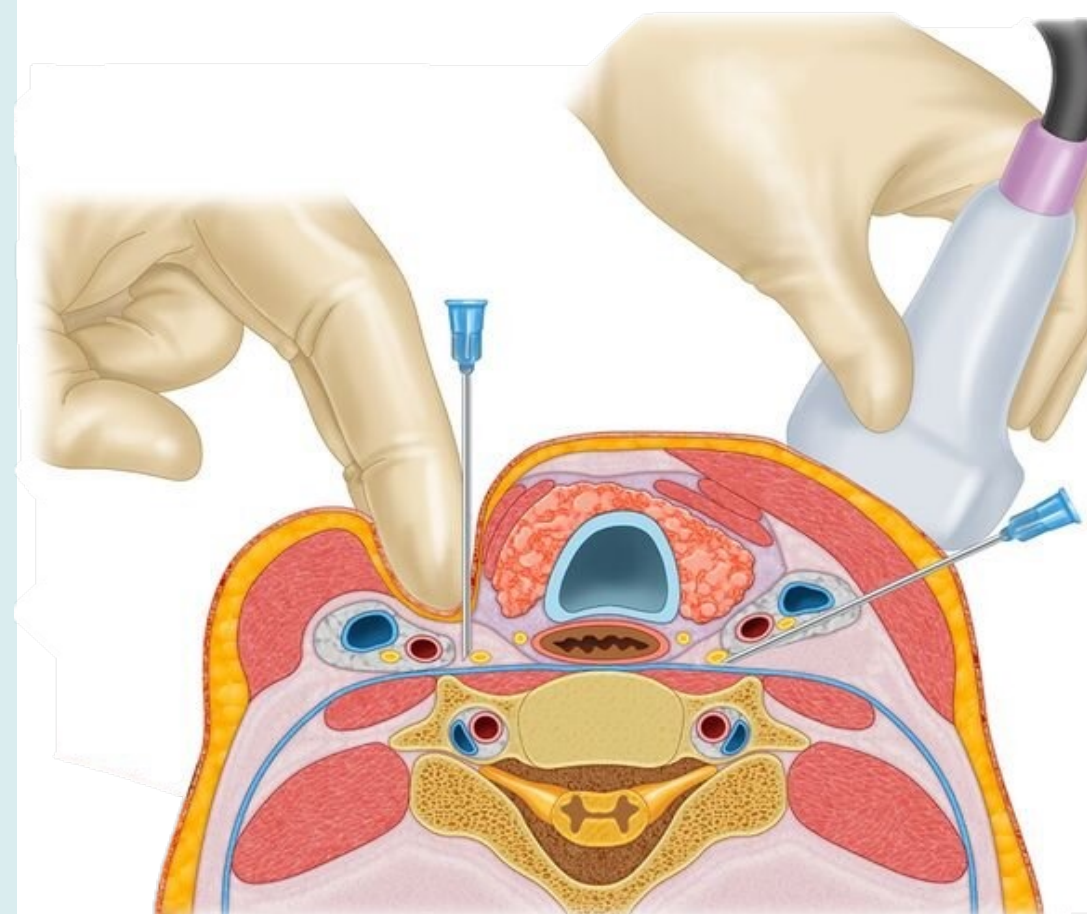
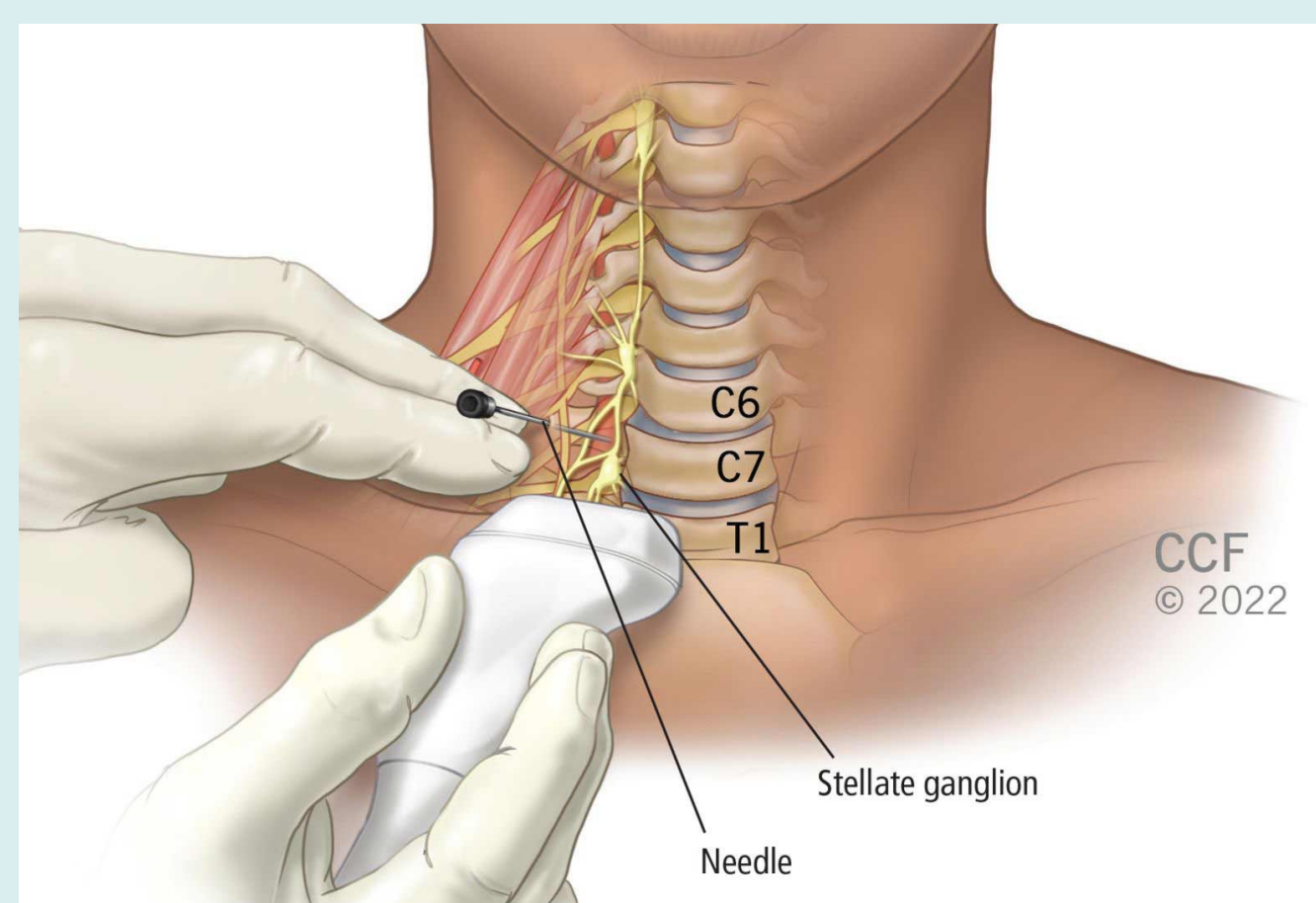
Introduction

Posttraumatic stress disorder (PTSD):

- Anxiety disorder, persistent sense of serious threat 2/2 previously experienced traumatic event
- Significant distress & functional impairment
- Symptoms:
 - Intrusive thoughts
 - Irritability
 - Mood swings
 - Hypervigilance
 - Difficulty focusing/sleeping

Stellate ganglion block (SGB):

- Anesthesia of sympathetic nervous system of head, neck, and upper extremity
- Classically done to treat CRPS, postherpetic neuralgia, facial pain, peripheral neuropathy



PTSD hyperarousal $\leftrightarrow$ dysregulation of sympathetic nervous system

SGB possible adjunct to trauma-focused psychotherapy PTSD

Case Presentation

JBVA Pain Management c/s for stellate ganglion block for PTSD/neck/jaw pain

39M PMHx PTSD, HTN, HLD, obesity (BMI 38), EtOH use disorder

History of Present Illness:

- Throbbing jaw pain (“clenching unto piece of metal for hours”) radiating to neck
- 10/10 pain for ~1 year
- Aggravated by anxiety/stress
- Fluoxetine helps symptoms

Assessment/Plan:

- After discussion, patient amenable to right stellate ganglion block for PTSD treatment
- Pain psychotherapy/Pain education school
- Continue mental health/PTSD treatment

Procedure:

- R neck prepped w/ chlorhexidine and draped
- C6 vertebral tubercle palpated lat. to cricoid cartilage
- Lidocaine 1% skin wheal
- 22g needle inserted to C6 transverse process
 - No blood/fluid/paresthesia
- Inj 9mL 0.25% bupivacaine w/ 40mg depo-Medrol
- Ipsilateral Horner’s syndrome noted; no adverse rxn

Case Presentation

Outcome:

- Patient RTC ~4 months following index SGB
- 2 months of relief w/ gradual return of pressure sensation shoulders/chest/jaw
- R SGB q4months w/ almost complete relief of PTSD symptoms after every injection

Discussion

SGB treats PTSD symptoms via sympathetics

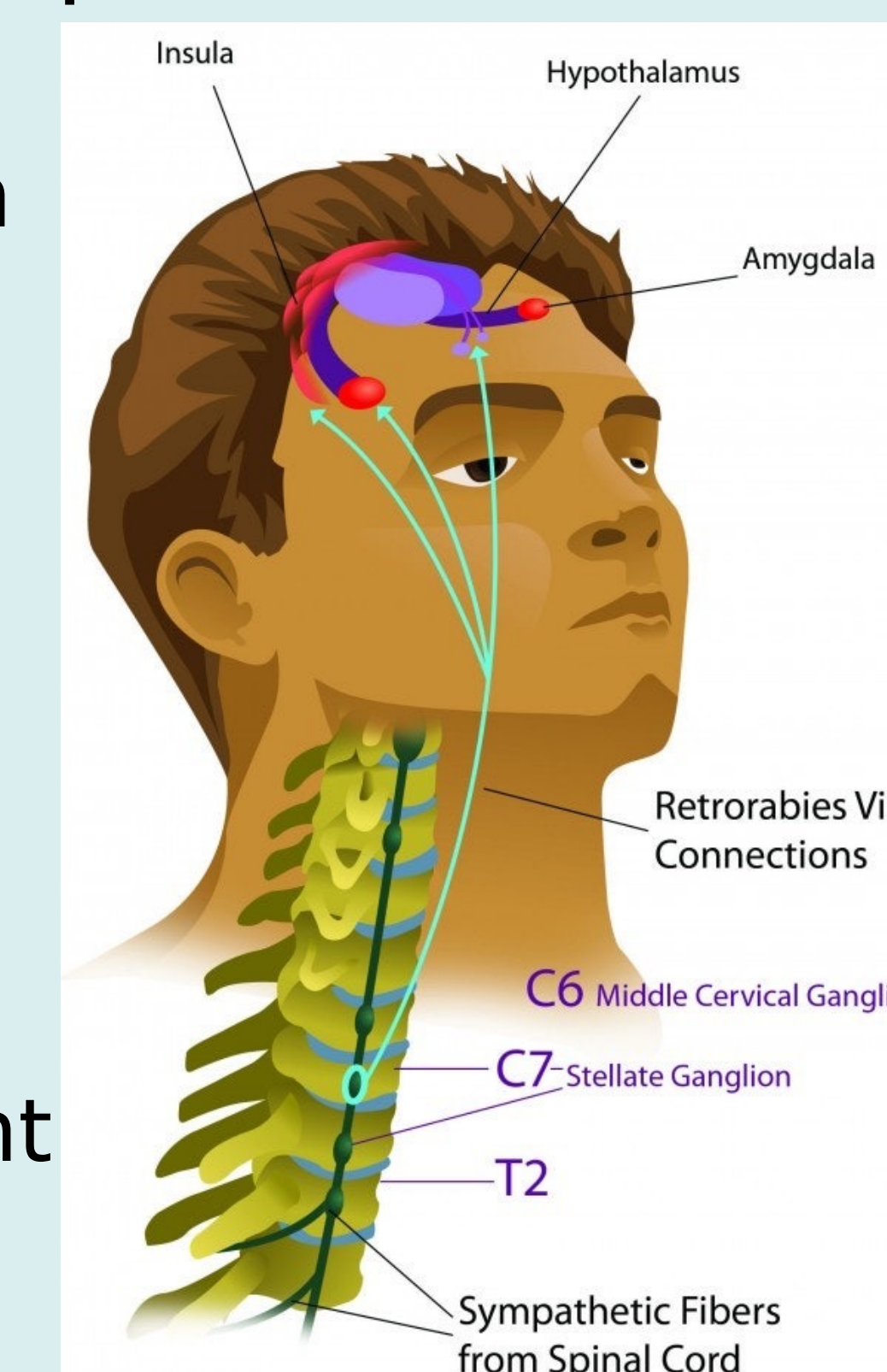
- Intrathoracic sympathetic blocks tx severe anxiety
- Alleviate hyperarousal via clipping/cautery of sympathetic chain

PTSD likely 2/2 amygdala CTRH stimulation $\rightarrow$ hippocampal activation

-Amygdalohippocampal circuit receives input from stellate ganglion

-Stress interpretation system connected to sympathetic nervous system

-Downregulation of sympathetic nervous system decreases aberrant firing of cortical stress interpretation system



Conclusion

Within past decade, case reports & RCT support SGB as treatment for PTSD

Preference for R SGB; R hemisphere mediates human stress response

SGB therapeutic benefit for PTSD can last up to 6 months; SGB relief of sympathetic pain lasts $\leq$ 4 weeks

SGB safe, promising intervention in pts w/ PTSD refractory to psychotherapy and ineffective pharmacologic regimen

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