

Stellate ganglion block in a civilian with PTSD : A successful case report

BACKGROUND:

This is the first case report to show effectiveness of stellate ganglion block (SGB) for treatment of post traumatic stress disorder (PTSD) in a civilian with a validated questionnaire.

CASE DESCRIPTION :

- A 43-year-old gentleman with a history of PTSD resulting from childhood sexual abuse and workplace assault .
- He was evaluated by a psychiatrist with the following diagnosis according: PTSD with dissociative symptoms, depersonalization and derealization, recurrent and severe major depressive disorder.
- He was started on: duloxetine 90 mg daily, venlafaxine 40 mg daily, fluoxetine 40 mg daily and nabilone 4mg daily.
- In view of failed medical therapy we offered the option of SGB
- We performed two series of three right sided SGBs .
- We documented the PTSD improvement with PCL-5 scoring after the completion of the first, second series of block and 6 week later.

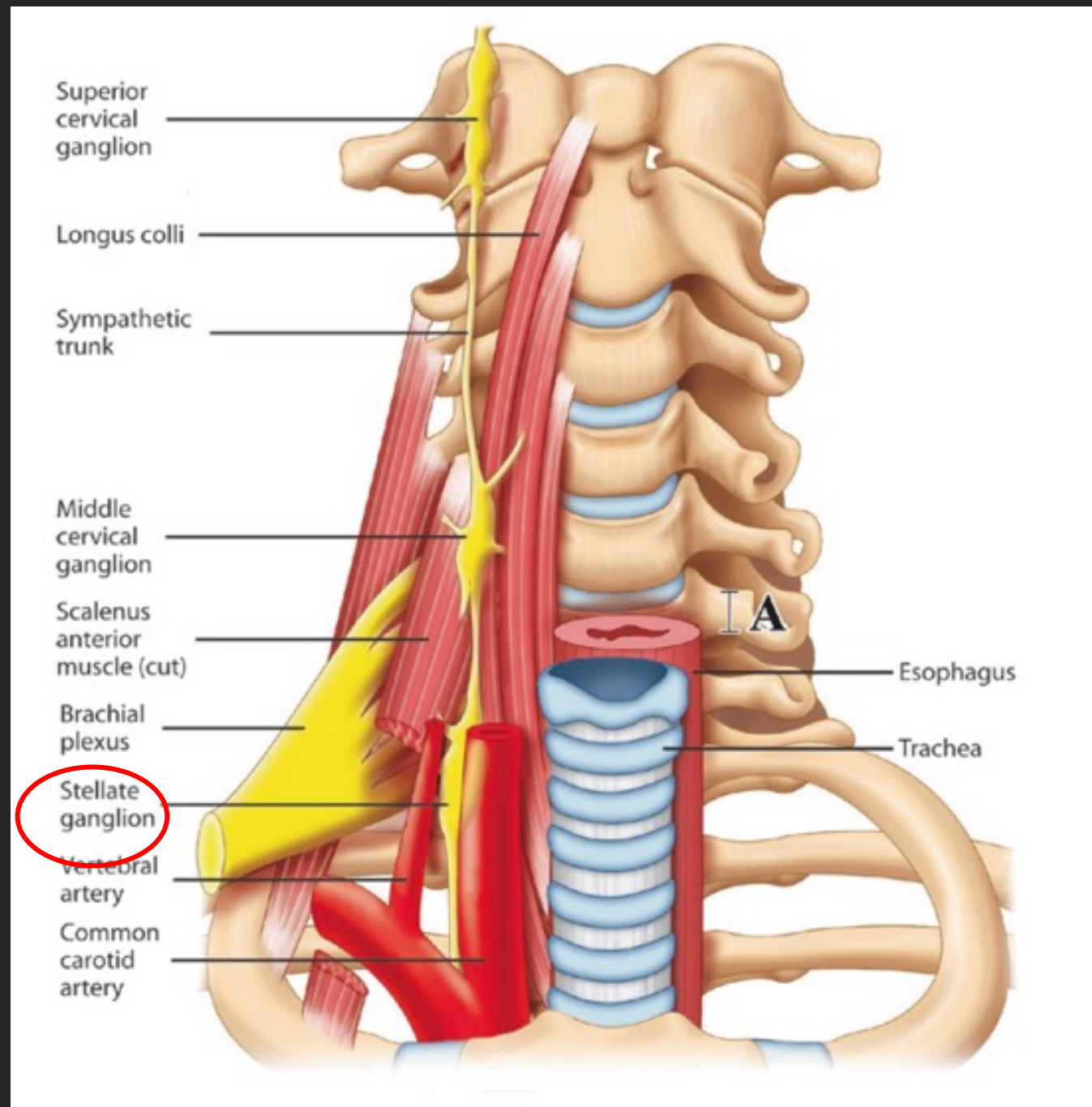


Figure 1 : Anatomy of cervical sympathetic chain

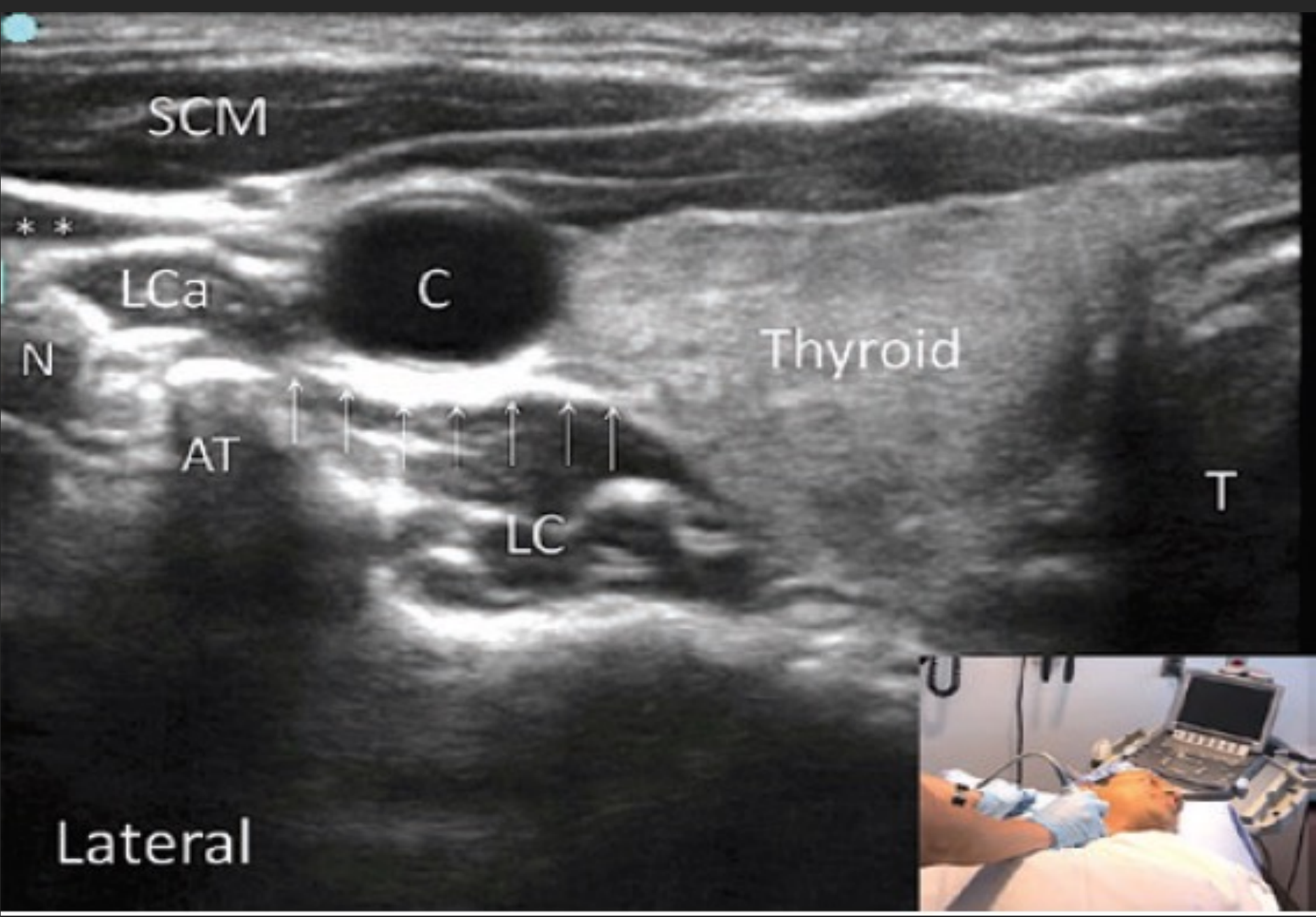


Figure 2 : Sonoanatomy at C6. Right lower corner showed position of the patient. Longus colli muscle (LC), longus capitis muscle (Lca), prevertebral fascia (arrows), cervical nerve root (N), carotid artery (C), and internal jugular vein (**) jugular vein. At this level, the transverse process has a prominent anterior tubercle (AT)

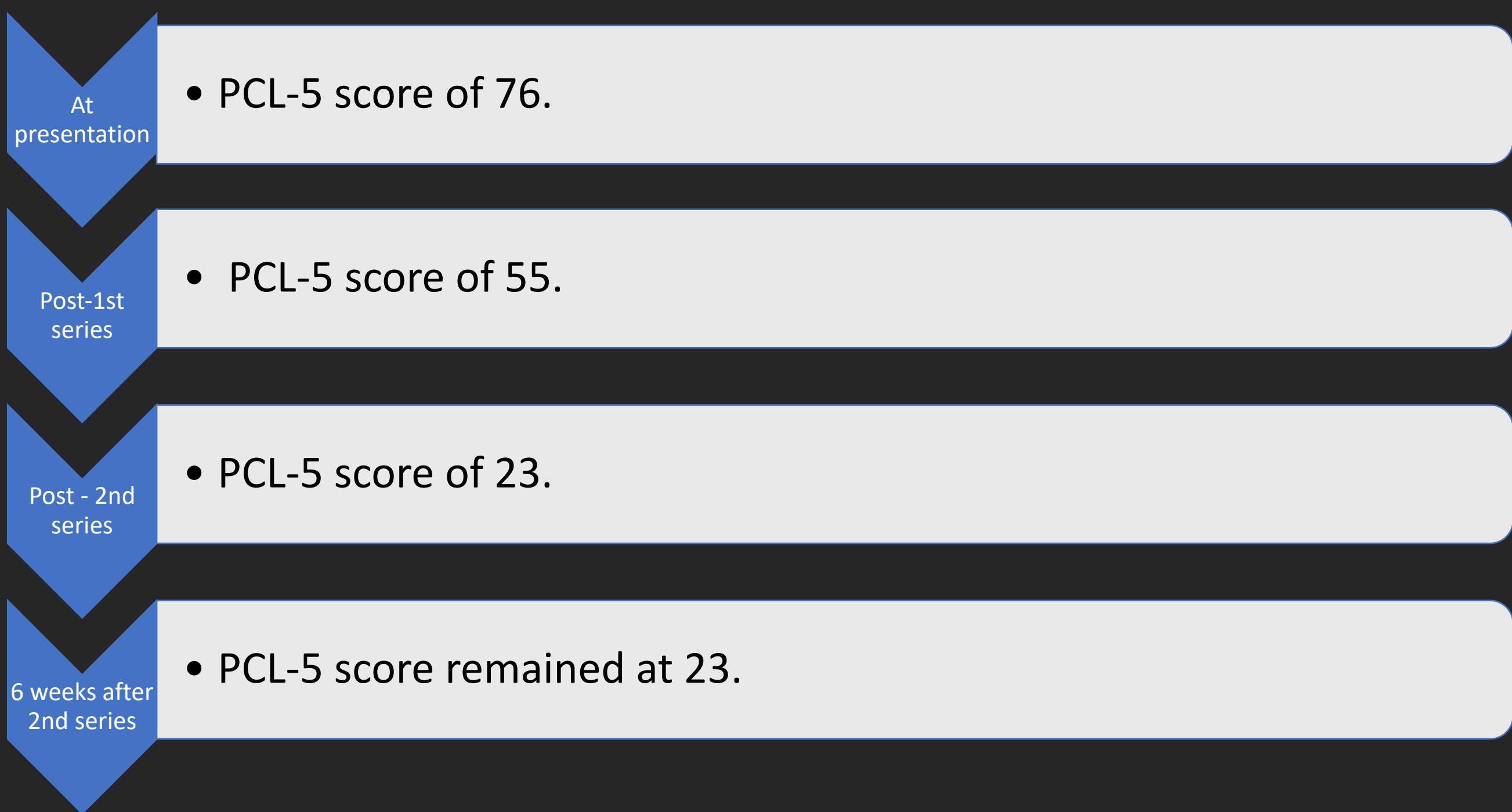
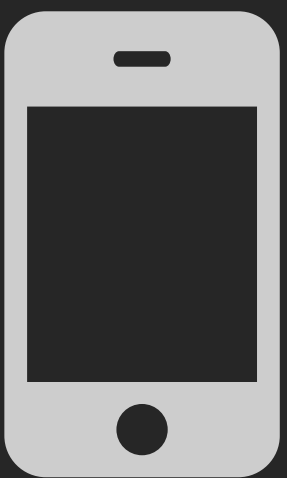


Figure 3: PCL scores at presentation, post 1st, 2nd series of block and 6 weeks later



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Anatomy of the stellate ganglion

- The stellate ganglion carries sympathetic fibers to and from the upper extremities and the head and neck, which comprised of the fused superior and inferior cervical ganglion.
- The stellate ganglia lie over the head of the first rib at the junction of the transverse process and uncinat process of T1.
- The ganglion is just posteromedial to the cupola of the lung and medial to the vertebral artery.

Stellate ganglion block

- Stellate ganglion block is carried out under ultrasound guidance at the C6 level in the fascial plane between the longus capitis and longus colli under aseptic technique.
- 3ml of 0.5% bupivacaine is administered.
- The injectate will spread along the prevertebral fascia inferiorly to the stellate ganglion.

PCL-5					
Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.					
In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being "superalert" or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

Figure 4 : PCL-5 scoring table

First Author	Year	Type of study	Total number of participants	Civilian participants	Injection Guidance	Questionnaire used	Comments
Alino	2013	Case series	4	0	X-ray	PCL-M	
Mulvaney	2010	Case series	2	0	X-ray	PCL	
Mulvaney	2014	Case series	166	0	Ultrasound	PCL	
Mulvaney	2015	Case series	11	0	Ultrasound	PCL-M	
Lipov	2010	Case report	1	1	X-ray	N/A	No standardized questionnaire used to assess improvement.
Hicky	2012	Case series	9	0	X-ray and Ultrasound	CAPS	
Lipov	2013	Case report and literature review	1	0	x-ray	PCL-M	
Hanling	2016	RCT	55	0	Ultrasound	CAPS	
McLean	2015	Quality assurance initiative	250	0	X-ray	N/A	A non-standardized survey was given
Olmsted	2020	RCT	113	0	Ultrasound	CAPS-5	

Table 1. Selection of studies on the use of stellate ganglion block for PTSD since 2010

