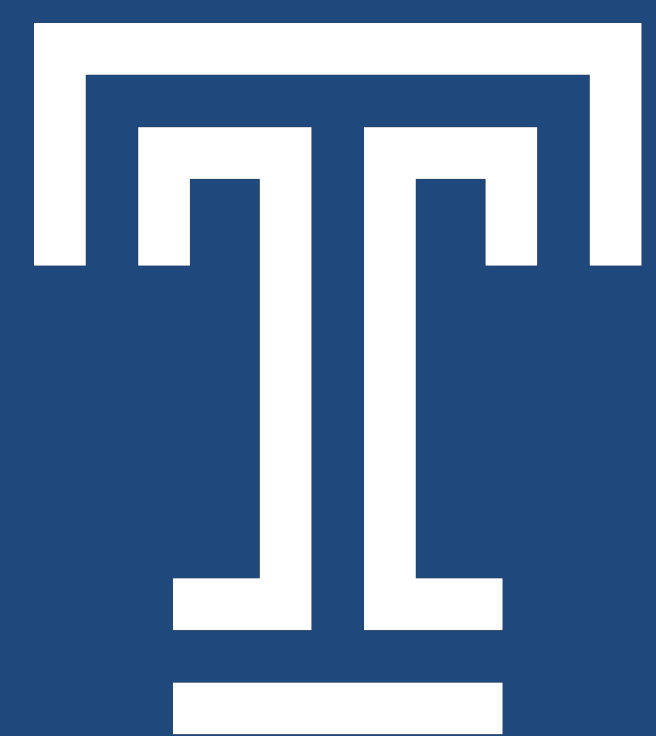




Stellate Ganglion Block in the Treatment of Long COVID: Preliminary Findings of a Systematic Review

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Background

- Post Acute Sequelae of SARS-CoV-2, also known as Long COVID, is a chronic condition that can occur after COVID-19 infection.
- Stellate ganglion block (SGB) is a treatment traditionally used to manage autonomic dysfunction and pain, but has gained traction as a possible, off-label treatment for the varied constellation of symptoms seen in Long COVID.

Inclusion/Exclusion Criteria

- To be included, studies must examine outcomes of patients diagnosed with long COVID after at least one SGB, be written in English, and have the full-text article available.
- Of the 45 results, the following were excluded: 14 duplicate results, 12 case reports/series, 4 unpublished/ongoing clinical trials, 2 articles examining unrelated therapies (ketamine, OMT), and 6 reviews/clinical guidelines that were not specific to SGB in the setting of long COVID.

Results

Symptom	Papers	Gross Efficacy (patients reporting benefit / total patients)
Anxiety	4 of 7 papers	22/32 = 68.8% of patient reported improvement in anxiety <i>Note:</i> 1 paper noted no significant change in GAD-7 score
Autonomic Dysfunction	4 of 7 papers	23/30 = 76.7% of patients reported improvements in autonomic dysfunction symptoms <i>Note:</i> 1 study showed a statistically significant decrease in heart rate by 10 beat per minute
Brain Fog/Cognitive Dysfunction	3 of 7 papers	58/81 = 71.6% of patients reported improvement in brain fog symptoms
Chest Pain	2 of 7 papers	12/20 = 60% of patients reported improvement in chest pain
Cough	1 of 7 papers	8/10 = 80% of patients reported resolution of cough
Depression/Mood changes	4 of 7 papers	36/52 = 69.2% of patients reported improvement in depression/mood symptoms
Dizziness	3 of 7 papers	28/40 = 70% of patients reported improvement of dizziness
Fatigue	6 of 7 papers	74/106 = 69.8% of patients reported improvement in fatigue <i>Note:</i> 1 study showed a significant decrease of 9 points in median Fatigue Severity Scale (FSS) scores
Headache	2 of 7 papers	26/32 = 81.3% of patients reported improvement in headache
Joint Pain	1 of 7 papers	15/16 = 93.8% patients reported resolution of joint pain
Pain	1 of 7 papers	13/16 = 81.3% patients reported improvement of pain interference and pain intensity via PROMIS-29 scores
Pins/Needles	1 of 7 papers	9/9 = 100% of patients reported resolution of numbness/tingling
Sleep	5 of 7 papers	39/54 = 72.2% of patients reported an improvement in sleep-related problems. <i>Note:</i> 1 study found no significant improvement in assessment of wakefulness after sleep onset, total sleep time, percent REM sleep, sleep fragmentation, and sleep apnea
Smell/Taste Changes	4 of 7 papers	38/68 = 55.8% of patients reported improvement in changes in taste/smell

Table 1. Symptoms examined in the various papers, efficacy reported by percentage of aggregated patients that reported benefit

Discussion

- Seven studies met inclusion criteria. Patients received a single SGB in some studies and multiple SGBs in others.
- More than half of the studies examined changes in taste/smell, anxiety, autonomic dysfunction, depression, sleep.
- The least studied symptoms include headache, joint pain, parasthesias.
- All studies shared some similar limitations: small sample sizes, heterogeneity of study design, outcome measure, and follow-up intervals. They also lacked control groups.

Conclusion

- Though it is off-label, SGB is a promising treatment that appears to generate substantive benefit for many of the symptoms seen in Long COVID. The literature does have significant limitations however.