



# Comparison of trigger point injections versus traditional therapies in the management of post-surgical pain in patients who had anterior cervical surgery: A Retrospective Study

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- Opioid epidemic – public health crisis
- Emphasis on non-opioid multimodal pain control
- Anterior cervical surgery (ACS)
  - Post-op posterior neck stiffness and myofascial pain
- Trigger point injections (TP) w/ local anesthetic
  - Kamanli et al. (2005)
  - Raeissadat et al. (2018)
  - Lugo et. Al (2016)

- Objective
  - TP w/ bupivacaine vs traditional pain control therapies
- Hypothesis
  - For patients undergoing ACS, TP w/ bupivacaine will decrease their post-op myofascial pain thereby decrease the overall amount of opioid medication used

- Single-center retrospective chart review of all ACS cases (Jan '19- Mar '20)
- 2 groups:
  - Trigger point injections (TP) vs Standard care (SC)
- Primary outcomes
  - Pain control via Visual Analog Scale (VAS)
  - Oral Morphine Equivalents (OME) @ 6, 12 & 24h post-op
- Exclusion criteria:
  - TP >3h from surgery
  - In recovery for opioid use disorder
  - Poster cervical surgery
  - Trauma

- Reviewed 137 patients ACS: 100 SC vs 37 TP, 62 excluded
  - 75 (47 SC, 28 TP) included in study

Table 1. Primary outcomes of anterior cervical surgery patients receiving postoperative standard pain control versus trigger point injection at multiple time points.

Outcome	Standard Care (n=47)	Trigger Point Injection (n=28)	p-value
<b>OME</b>	(mg)	(mg)	
6 hours	32±2.8 (n=47)	22±3.0 (n=28)	0.025*
12 hours	54±5.1 (n=29)	37±10.5 (n=9)	0.18
24 hours	78±7.1 (n=27)	58±18.9 (n=6)	0.35
<b>VAS</b>			
6 hours	3.4±0.4 (n=47)	3.3±0.4 (n=28)	0.78
12 hours	5.3±0.6 (n=29)	4.2±1.3 (n=9)	0.45
24 hours	5.4±0.6 (n=27)	3.2±1.5 (n=6)	0.21

- TP w/ bupivacaine significantly reduce opioid consumption within 6 hours post-op
  - w/o increasing overall pain level
- Role for TP in multimodal pain regimens
- Limitations:
  - Retrospective
  - Small number of study participants
  - Many patients discharged before 18 hours
  - Chronic pain therapy
- Future Directions → prospective randomized control study

1. Kamanli, A, Kaya, A, Ardicoglu, O, Ozgocmen, S., Zengin, FO, Bayık Y. Comparison of lidocaine injection, botulinum toxin injection, and dry needling to trigger points in myofascial pain syndrome. *Rheumatology international*, 2005;25(8), 604-611.
2. Raeissadat S, Rayegani S, Sadeghi F, et al. Comparison of ozone and lidocaine injection efficacy vs dry needling in myofascial pain:syndrome patients. *Journal of Pain Research* 2018;11:1273–9.
3. Lugo LH, García HI, Rogers HL, Plata JA. Treatment of myofascial pain syndrome with lidocaine injection and physical therapy, alone or in combination: a single blind, randomized, controlled clinical trial. *BMC musculoskeletal disorders*, 2016;17(1), 101.

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