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## BACKGROUND

- There is extremely sparse literature reporting on the outcomes of thoracic transforaminal epidural steroid injections, including the efficacy and safety of this approach
- There have been a few studies looking at the outcomes of interlaminar thoracic epidural steroid injections
- Benyamin et al concluded that the evidence behind thoracic epidural steroid injections is considered fair

## RESEARCH OBJECTIVE

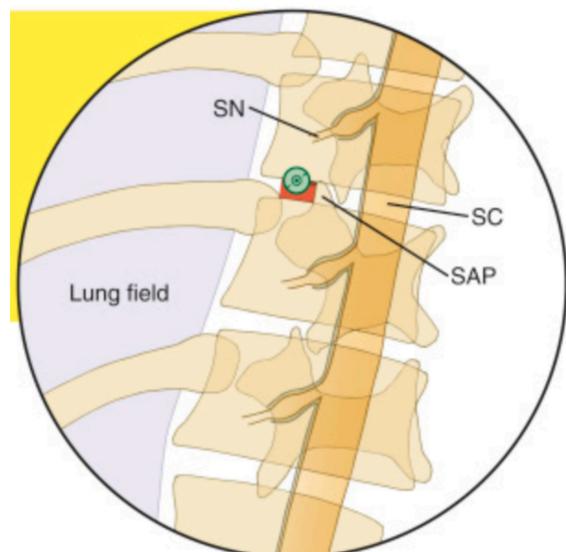
To investigate the outcomes of patients with thoracic radicular pain who underwent thoracic transforaminal epidural steroid injections (TTFESI)

## DESIGN

Retrospective case series study from January, 2016 to December, 2019 at a single academic medical center

## OUTCOMES

- Primary outcome: pain score using a numeric rating score
- Secondary outcomes: need for repeat injection, progression to surgery, complications of the injections



Trajectory view of infraneural TTFESI approach, "target box" in red

## RESULTS

NRS Pain Score Pre-injection	NRS Pain Score Post Injection	Repeat Injection (1=yes, 0=no)	Time to Second Injection
8	5	1	30
4	1	1	54
10	8	1	28
6	0	1	266
4	0	0	n/a
3	6	1	7

- Six Patients (mean age = 60.3 years with a SD = 11.8 years) underwent TTFESI for the treatment of thoracic radicular pain non-responsive to conservative care
- 3/6 patients had pain duration of 6 months or less, and 5 /6 patients had pain duration of 16 months or less
- All injections were performed in accordance with Spine Intervention Society technique guidelines
- Dexamethasone was used for all injections
- The patient's thoracic MRIs underwent independent review by two physicians; 3 patients had thoracic disc herniation, 2 with spondylitic stenosis, and 1 MRI was no longer available for review
- Median pain score using a numeric rating scale prior to injection was 5 (IQR = 4-7.5)
- At follow up (mean = 29.5 days), median pain score was 3 (IQR = 0.25-5.75)
- Three patients received greater than 75% pain reduction, and 2 patients had complete resolution of their pain
- 5 of the 6 patients underwent a single level unilateral injection, with the other undergoing a two-level injection unilateral injection
- Five patients underwent repeat injection with a mean time to repeat injection of 77 days (SD = 107 days)

## DISCUSSION

- Of note, 50% of our patients experienced greater than 75% relief, which appears promising despite the limited 'n'
- No patients progressed to surgery
- One symptomatic but transient vasovagal reaction occurred, with no other complications noted
- TTFESI is known to have an inherent risk of pneumothorax; however, of the 11 injections performed, this was not an observed complication
- One symptomatic but transient vasovagal reaction occurred, with no other complications noted

## CONCLUSION

- Although only a case series, this is significant in reporting outcomes for the transforaminal approach
- Further research is needed, including multisite cohort studies obtain a larger 'n' as well as prospective studies

## REFERENCES

1. Benyamin RM, Wang VC, Vallejo R, Singh V, Helm li S. A systematic evaluation of thoracic interlaminar epidural injections. *Pain Physician*. 2012;15(4):E497-E514.
2. Furman MB. *Atlas of Image-Guided Spinal Procedures*. Elsevier; 2018.