Transforaminal lumbar epidural steroid injection

- Effectiveness of epidural amniotic fluid injection for low back pain
- Decrease in opioid use and spinal interventions after basivertebral nerve ablation
- Epidural Lysis of Adhesions: What Every Interventional Pain Physician Needs to Know
- Understanding the Landscape of Lumbar Epidural Steroid Injections: A Review of Interlaminar, Transforaminal, and Caudal Approaches
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- Transforaminal Epidural Steroid Injection in Lumbar Disc Prolapse: Impact on Pain Intensity and Cognitive Function in Relation to MicroRNA-155 Serum Level

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Fluoroscopically guided transforaminal lumbar epidural steroid injections (FG-TFESIs) have been shown to provide both immediate and long-term improvement in patient's self-reported pain.

The caudal epidural injection and transforaminal epidural steroid injection methods showed similar outcomes in the treatment of relapsed lumbar disc herniation. However, more detailed patient categorizing may help in finding possible subgroups with differences [1)].

It has been shown that L4/L5 selective nerve root blocks become nonselective after injecting 1 mL and 0.5 mL of contrast. Diagnostic selective nerve root blocks limiting injectate to a single, ipsilateral segmental level cannot reliably be considered diagnostically selective with volumes as low as 0.2 mL. Also, spread of the contrast to the superior nerve root was more likely than spread to the inferior nerve root [2)].

Betamethasone

Administration of the lowest possible dose of epidural betamethasone is desired to minimize side effects while maintaining efficacy.

Reduction in numerical rating scale (NRS) pain score and narcotic usage at 4 weeks after FG-TFESI were statistically equivalent between patients who received 3 mg or 6 mg of betamethasone, suggesting that a lower steroid dose has similar analgesic efficacy [3)].

Dexamethasone

According to a study, pain relief and functional improvement are similar for both dexamethasone and betamethasone at 3 months. Considering its safety profile, dexamethasone could be considered as first choice for TFESI. However, given that the study was underpowered, more research is needed to

support a recommendation of systematically using dexamethasone in TFESI [4].

Complications

Although considered more target-specific, this approach is associated with several disadvantages including intraneural injection, neural trauma, intravascular injection, and spinal cord trauma [5] [6].

There have been several case reports and retrospective studies about the incidence of intradiscal (ID) injection during transforaminal epidural steroid injection (TFESI). Inadvertent ID injection is not a rare complication, and it carries the risk of developing diskitis, although there has been no report of diskitis after TFESI.

Inadvertent ID injection during TFESI is not infrequent, and pain physicians must pay close attention to the type and location of disc herniation [7].

References

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