Epidural Steroid Injection

Indications

Epidural steroid injections (ESIs) are a common method for back pain management and treating inflammation associated with low back related leg pain, or neck related arm pain. In both of these conditions, the spinal nerves become inflamed due to narrowing of the passages where the nerves travel as they pass down or out of the spine.

Epidural Steroid Injection for chronic low back pain

History

They have been used in the treatment of lumbar radicular pain syndromes since 1952. These injections have been performed blind, using an interlaminar loss of resistance technique with a 13-30% incidence of improper localization of the space

X-ray confirmation of site is essential for difficult extradural blocks, or when neurolytic solutions are introduced into the spinal canal [1].

Types

Interlaminar epidural steroid injection

Transforaminal epidural steroid injection

see Lumbar epidural injection

see Cervical epidural injection

see Caudal epidural injection

Complications

see Epidural Steroid Injection Complications.

Case series

One hundred forty-one patients met the inclusion/exclusion criteria; 89 received Epidural Steroid Injection (ESI) and 52 were treated with medical management alone. Both cohorts showed improved EQ-5D scores at 3 months but were similar to one another: ESI (ΔEQ-5D = 0.06; p = 0.03) and medical-alone (ΔEQ-5D = 0.07; p = 0.03). No significant difference was seen between groups for total

costs ($2,190 vs. $1,772; p = 0.18) or cost-utility ratios ($38,710/QALY vs. $27,313/QALY; p = 0.73). At both the 3-month and 6-month endpoints, absolute differences in cost-utility were driven by overall costs as opposed to QALY gains. Medical management alone was more cost-effective at both points owing to lower expenditures, however, these differences were not significant. No benefits were seen in either group on the EQ-5D or any of the patient-reported outcomes at the 6-month time point.

ESIs were not cost-effective at either the 3-month or 6-month follow-up period. At 3 months, ESIs provide similar improvements in QOL outcomes relative to medical management and at similar costs. At 6 months, neither ESIs nor conservative management provides significant improvements in QOL outcomes [2].

References

1)
Mehta M, Salmon N. Extradural block. Confirmation of the injection site by X-ray monitoring. Anaesthesia. 1985 Oct;40(10):1009-12. PubMed PMID: 4061788.

2)
Pennington Z, Swanson MA, Lubelski D, Mehta V, Alvin MD, Fuhrman H, Benzel EC, Mroz TE. Comparing the short-term cost-effectiveness of epidural steroid injections and medical management alone for discogenic lumbar radiculopathy. Clin Neurol Neurosurg. 2020 Jan 13;191:105675. doi: 10.1016/j.clineuro.2020.105675. [Epub ahead of print] PubMed PMID: 31954364.