Lumbar epidural corticosteroid injections provided only short-term relief of symptoms and pain in unilateral sciatica

Arden NK, Price C, Reading I, et al. **A multicentre randomized controlled trial of epidural corticosteroid injections for sciatica: the WEST study.** Rheumatology (Oxford). 2005;44:1399-406.

Clinical impact ratings: GIM/FP/GP ★★★★★★☆ Rheumatology ★★★★★☆☆

QUESTION

In patients with unilateral sciatica, do lumbar epidural corticosteroid injections (ESIs) reduce symptoms and pain?

METHODS

Design: Randomized placebo-controlled trial (Wessex Epidural Steroids Trial [WEST]).
Allocation: {Concealed}†.*
Blinding: Blinded (patients and outcome assessors).*
Follow-up period: 52 weeks.
Setting: 4 centers in the Wessex region of the United Kingdom.
Patients: 228 patients 18 to 70 years of age (mean age 43 y, 53% men) who had unilateral sciatica for 1 to 18 months. Exclusion criteria included spinal canal stenosis, lumbar spine surgery, receipt of ESIs, depression, bleeding diathesis, use of anticoagulants, and current litigation.
Intervention: Lumbar ESIs of triamcinolone acetonide, 80 mg, and 25% bupivacaine, 10 mL (n = 120), or saline injections into the interspinous ligament, 2 mL (n = 108), at 0, 3, and 6 weeks.
Outcomes: Improvement of symptoms measured by the Oswestry Low Back Pain Disability Questionnaire (ODQ). Other outcomes included leg and back pain measured by the Likert scale and visual analogue scale (VAS).
Patient follow-up: 208 patients (91%) completed the ODQ at 52 weeks.

MAIN RESULTS

The proportion of patients reporting ≥ 75% improvement in ODQ score was low in both groups but statistically greater in ESI-treated patients at 3 weeks (Table). Improvement in leg pain measured by the Likert scale was greater in ESI-treated patients than in the placebo group at 3 weeks (Table). Groups did not differ for improvement in back pain measured by the Likert scale or leg and back pain measured by the VAS at 3 weeks. Groups did not differ for any outcome past 3 weeks or for ODQ score at 52 weeks (Table).

CONCLUSION

In patients with unilateral sciatica, lumbar epidural corticosteroid injections provided only short-term relief of symptoms and pain.

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*See Glossary.

†Information provided by author.

Epidural corticosteroid injection (ESI) vs placebo for unilateral sciatica at 3 and 52 weeks‡

Outcomes	Follow-up	ESI	Placebo	RBI (95% CI)	NNT (CI)
≥ 75% improvement in the Oswestry Low Back Pain Disability Questionnaire	3 wk	13%	3.7%	238% (22 to 849)	12 (7 to 57)
	52 wk	33%	30%	9.7% (–25 to 62)	Not significant
Improvement in leg pain on the Likert scale	3 wk	61%	40%	53% (17 to 102)	5 (4 to 13)
	52 wk	56%	47%	18% (–8.1 to 53)	Not significant

‡Abbreviations defined in Glossary; RBI, NNT, and CI calculated from data in article.

COMMENTARY

Lumbar ESIs are commonly administered for sciatica, yet remain controversial (1). The study by Arden and colleagues adds to the body of literature attesting to a limited effect of these injections that belies their popularity. In the study, patients had a clinical diagnosis (i.e., no cross-sectional imaging) and were treated with either a lumbar ESI administered without imaging guidance or an injection of normal saline into the interspinous ligament. These parameters were designed to reflect the pragmatic practice in the United Kingdom, and the results were disappointing. Patients who received ESIs had better relief of leg pain but not back pain when assessed at 3 weeks; ESI and placebo groups did not differ when assessed at 6 weeks to 12 months. Notable in this sample was their poor long-term outcome—most patients had significant pain and disability at the end of the study.

Integrating the results of the study into clinical practice is problematic. Many clinicians regard an anatomical lesion on cross-sectional imaging (e.g., computed tomography or magnetic resonance imaging) as diagnostic for sciatica and a prerequisite for considering an ESI. However, such imaging was not done in the study. The techniques used for placement of the ESI in the study were not stated, but according to some literature, correct placement under "blind" injections exceeds 90% (2), whereas other data attest to much lower rates in the order of 70% (3). The likely effect of including patients who potentially did not have imaging abnormalities or those whose injections were not correctly placed would be a decrease in the size of any positive effect of ESIs, but it could be argued that it should not change the duration of the observed effect. The authors concluded that treatment of sciatica requires a multidisciplinary approach. This is a hypothesis that needs pragmatic evaluation, but it seems that lumbar epidurals alone are not the sole answer to long-term management of disabling sciatica.

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Reference

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3. **White AH, Derby R, Wynne G.** Epidural injections for the diagnosis and treatment of low-back pain. Spine. 1980;5:78-86.