USE OF EPIDURAL STEROID INJECTIONS TO TREAT RADICULAR LUMBOSACRAL PAIN

This is a summary of the American Academy of Neurology’s guideline assessing the treatment of radicular lumbosacral pain with epidural steroid injections. The guideline aims to determine if the treatment is effective when used to ameliorate sciatic pain and to postpone or avoid surgery. The guideline concludes that epidural steroid injections may result in some improvement of radicular lumbosacral pain when assessed between two and six weeks following the injection and that, in general, the injections for pain do not affect average impairment of function, the need for surgery, or provide long-term pain relief beyond three months. Not enough evidence is available to support or refute treating radicular cervical pain with epidural steroid injections.

Please refer to the full guideline for detailed findings and supporting evidence at www.aan.com

EVIDENCE-BASED GUIDELINE RECOMMENDATIONS FOR TREATMENT OF RADICULAR LUMBOSACRAL PAIN

<table>
<thead>
<tr>
<th>Good evidence supports</th>
<th>In general, epidural steroid injections for radicular lumbosacral pain have shown no impact on average impairment of function, on need for surgery, or on long-term pain relief beyond three months. Their routine use for these indications is not recommended (Level B*, Class I-III**).</th>
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<tbody>
<tr>
<td>Weak evidence supports</td>
<td>Epidural steroid injections may result in some improvement in radicular lumbosacral pain when determined between two and six weeks following the injection, compared to control treatment (Level C, Class I-III). The average magnitude of effect is small, and the generalizability of the observation is limited by the small number of studies, limited to highly selected patient populations, the few techniques and doses studied, and variable comparison treatments.</td>
</tr>
<tr>
<td>Insufficient evidence to support or refute</td>
<td>Data on use of epidural steroid injections to treat cervical radicular pain are inadequate to make any recommendation (Level U).</td>
</tr>
</tbody>
</table>

PRINCIPAL FINDINGS IN CLINICAL PERSPECTIVE

Amelioration of Pain
- The findings of four high quality studies are internally consistent, showing the following efficacy pattern compared to a control group: no efficacy at 24 hours, some efficacy at two to six weeks, no difference or rebound worsening at three and six months, and no difference at one year.
- These results support the individual perception of benefit of epidural steroids, expressed in terms of short-term symptomatic relief, a positive result in and of itself.
- The average effect difference (advantage of steroids over control treatment) was small, usually falling short of the value proposed as a clinically meaningful average difference—15 mm on the 100 mm visual analogue pain scale.

Avoidance of Surgery
- The data on face value are conflicting, with the better designed studies showing no benefit to epidural steroids.
- The data do not permit inferring if surgery is avoided due to the treatment effect of injected steroids, due to placebo effect, or because the treatment “buys time” for a natural history of improvement.
- The data do not address how epidural steroid injections might compare to other treatment modalities and the role of patient and provider characteristics, including temperament and pain tolerance, in selecting among various treatment options.
- The recommendations gave greater weight to the data from the better designed studies showing that epidural steroid injections did not result in less surgery.

Refer to the complete guideline for more principal findings in clinical perspective.
This guideline summary is evidence-based. The AAN uses the following definitions for the level of recommendations and clarification of evidence.

*Classification of Recommendations: A = Established as effective, ineffective, or harmful for the given condition in the specified population. (Level A rating requires at least two consistent Class I studies.) B = Probably effective, ineffective, or harmful for the given condition in the specified population. (Level B rating requires at least one Class I study or at least two consistent Class II studies.) C = Possibly effective, ineffective, or harmful for the given condition in the specified population. (Level C rating requires at least one Class II study or two consistent Class III studies.) U = Data inadequate or conflicting; given current knowledge, treatment is unproven.

**Classification of Evidence for Therapeutic Intervention: Class I = Prospective, randomized, controlled clinical trial with masked outcome assessment in a representative population. The following are required: a) primary outcome(s) clearly defined; b) exclusion/inclusion criteria clearly defined; c) adequate accounting for dropouts and cross-overs with numbers sufficiently low to have minimal potential for bias; and d) relevant baseline characteristics are presented and substantially equivalent among treatment groups or there is appropriate statistical adjustment for differences. Class II = Prospective matched group cohort study in a representative population with masked outcome assessment that meets a-d above OR a RCT in a representative population that lacks one criteria a-d. Class III = All other controlled trials (including well-defined natural history controls or patients serving as own control(s) in a representative population, where outcome is independently assessed or independently derived by objective outcome measurement. Class IV = Evidence from uncontrolled studies, case reports, or expert opinion.

* Objective outcome measurement: an outcome measure that is unlikely to be affected by an observer’s (patient, treating physician, investigator) expectation or bias (e.g. blood tests, administrative outcome data.)

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