Assessment: use of epidural steroid injections to treat radicular lumbosacral pain. Report of the Therapeutics and Technology Assessment Subcommittee of the American Academy of Neurology

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CRD summary
The authors did not recommend the use of epidural steroid injections in certain instances. Conclusions could not be drawn regarding their use in treating cervical radicular pain due to lack of evidence. Despite several limitations with the studies (such as potential selection bias and the quality of reporting in the review) the authors' recommendations seemed suitably cautious.

Authors' objectives
To assess the safety and efficacy of epidural steroid injections for the treatment of radicular lumbosacral pain.

Searching
MEDLINE was searched between April 2003 and February 2005. In addition, references of identified articles were searched manually. Search terms were reported.

Study selection
Prospective, randomised, double- or triple-blind studies comparing epidural steroid injections with a control (placebo or active) for pain relief in patients with radicular lumbosacral pain were eligible for inclusion. Eligible studies were required to use standardised methods for measuring pain relief and report treatment complications.

Included studies used self report and questionnaires for measuring primary (leg pain) and secondary (back pain) outcomes. Some studies also used the straight leg raising test or a visual analogue scale to measure leg and/or back pain. Most studies compared varying doses of methylprednisolone acetate plus procaine, isotonic saline or bupivacaine with active controls (including saline with or without procaine) with or without fluoroscopy guidance. Included studies also reported clinical differences between treatment groups in terms of the proportion of patients undergoing surgery. The authors stated neither how the papers were selected for the review nor how many reviewers performed the selection.

Assessment of study quality
The authors did not assess validity, but evidence levels were reported for each study.

Data extraction
The authors stated neither how data were extracted nor how many reviewers performed the data extraction. Data were extracted as safety data (reported as number of patients with complications) and efficacy data (reported as effect sizes and clinical differences between groups).

Methods of synthesis
Safety and efficacy data were presented as a narrative synthesis and in tables.

Results of the review
Six prospective randomised trials (n=505) were included in the review: one triple-blind, four double-blind and one single-blinded. Sample sizes ranged from 23 to 160 patients. Follow-up durations were variable.

Three of four efficacy studies reported as being of high quality indicated some short term benefit (two to six weeks) in pain reduction after epidural steroid injection. However, the treatment differences were reported to be small and no differences were reported at either three and six months (two studies) or after one year (two studies). Studies reported conflicting results on whether epidural steroid injections resulted in less surgery, with the authors reporting no benefit.
in the better designed studies.

Complications were reported in the review, but those results also included studies not meeting the inclusion criteria.

**Authors’ conclusions**

Epidural steroid injections for radicular lumbosacral pain showed no benefits to average impairment of function, need for surgery and long-term pain relief beyond three months; routine use is not recommended in those instances. There was insufficient evidence for conclusions to be drawn regarding the use of epidural steroid injections in the treatment of cervical radicular pain.

**CRD commentary**

The objectives and inclusion criteria of this review were clear. However, the literature search was very limited and did not state which languages were searched or whether unpublished articles were located, so there was potential for language and publication bias. Validity was not assessed, which questions the reliability of the conclusions. And the process for each stage of the review was not made explicit, so there reviewer error and bias were possible. A narrative synthesis was appropriate because of the methodological differences between studies. The authors acknowledged certain limitations with the included studies (such as small number of studies and highly selected patient population) that limited generalisability. Despite the limitations, the authors’ conclusions appeared to reflect the evidence and their conclusions seemed suitably cautious.

**Implications of the review for practice and research**

Practice: the authors stated that use of epidural steroid injections is not recommended for treating radicular lumbosacral pain in terms of impaired function, need for surgery or long-term pain relief beyond three months. No recommendations could be made for their use in the treatment of cervical radicular pain due to lack of evidence.

Research: the authors recommended future well-designed studies that met certain criteria and answered certain questions reported in the review should be conducted to assess the efficacy of epidural steroids for treating radicular lumbosacral pain.

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