Title: MRI-Guided Nerve Injections for Chronic Pain: Clinical Effectiveness

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Research question:

What is the evidence for the clinical effectiveness of MRI-guided nerve injections for the treatment of chronic pain?

Methods:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 1, 2008), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI, EuroScan, international HTA agencies, and a focused Internet search. Results include articles published between 2002 and the present, and are limited to citations with English language abstracts. No methodological search filters were applied to limit the retrieval to study type. Internet links are provided, where available.

Results:

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews and meta-analyses are presented first. These are followed by randomized controlled trials and observational studies. Two observational studies were identified from the literature search results.

Overall summary of findings:

Two observational studies by the same author were identified. The first is a study of the treatment capabilities of magnetic resonance (MR) neurography and open MR-guided injections for the diagnosis and management of pudendal nerve entrapment. This is a small prospective study involving 55 patients. The author concluded that this new, minimally invasive surgical technique resulted in good to excellent treatment outcomes in 87% of patients with various subtypes of pudendal entrapment.¹
The second study evaluates the diagnostic capabilities of MR neurography and the treatment outcomes of open MR-guided injections in patients with sciatica and piriformis syndrome which can cause sciatic nerve pain. The investigation involved 239 sciatica patients in whom standard diagnosis and treatment did not result in improvement. After performing MR neurography, 67.8% of patients were rediagnosed with piriformis syndrome. Open MR-guided Marcaine injection into the piriformis muscle resulted in 14.9% of patients experiencing relief for greater than 8 months and 7.5% of patients experiencing relief for 2 to 4 months with continued relief after a second injection. Recurrence occurred in 36.6% of patients after 2 to 4 months and in 25.4% of patients after 1 to 14 days. There were 15.7% of patients who did not respond to the MR-guided Marcaine injection.²

The second article does not pertain specifically to MRI guided injection into nerves, instead it refers to injections into the piriformis muscle. It was included because the author was identified as one of interest and because the piriformis muscle can irritate the sciatica nerve. No further information about MR-guided injections into nerve was identified. Additional documents that may be of interest are included in the Appendix.
References summarized:

**Health technology assessments**
No literature identified

**Systematic reviews and meta-analyses**
No literature identified

**Randomized controlled trials**
No literature identified

**Observational studies**


**Guidelines and recommendations**
No literature identified

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Appendix – Further information:

Review articles


Additional references


