

# Efficacy of Epidural Steroid Injections for Lumbar Radiculopathy

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# Clinical Background

- 1-Low back pain is common
- 2-Early resolution is the usual outcome
- 3-A small proportion of cases have radiculopathy
- 4-Radiculopathy is associated with prolonged morbidity
- 5-An intervention which hastens clinical recovery is worth considering

# My standard management plan

1-If radiculopathy is present

a-plain X rays

b-lumbar epidural steroid injection

c-review 3-4 weeks post injection

2-Only arrange further imaging in those who fail to respond to epidural injection

# This Study

- 1-Retrospective review
- 2-Cohort of 52 patients with lumbar radiculopathy
- 3-Presentation from Mar 2003-Feb 2004
- 4-Review of records from Sept 2004-  
minimum follow up 6 months
- 5-Application of my standard management  
plan to these 52 patients

# Markers of Radiculopathy

- 1-Sharp referred pain to the leg ,below the knee
- 2-Positive cough impulse
- 3-Positive sciatic stretch test
- 4-Motor weakness
- 5-Sensory symptoms/signs conforming to a dermatome
- 6-Reflex asymmetry

# Definition of satisfactory response

- 1-Reduction of pain by over 50%
- 2-Return to at or near previous level of function

# Results

- 52 patients referred for epidural steroid injection
- 41 of these [79%] had a satisfactory response at review 3-4 weeks post injection
- All were referred for back care education plus lumbo-pelvic stability exercises
- 11 patients [21%] referred for lumbar MRI scan

# Patients referred for MRI scan

- Pathology found:
- Disc lesion L4/5 level 5
- L5/S1 level 4
- Both L4/5 plus L5/S1 1
- Facet joint degeneration 1
  
- Total 11

# Treatment of the patients referred for MRI scan

- 1-Observation-late response to epidural
- 2 months post injection 2
- 2-Generalised annular bulging
- -lumbo-pelvic stability programme 4
- 3-L5 motor weakness + foot drop
- -ankle-foot orthosis 1
- 4-Facet joint degeneration- manual Tx 1
- 5-Surgery 3
- Total 11
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# Correlation of clinical findings and MRI results

- Disc lesion –same level 6
- Disc lesion –different level 3
- Disc lesion –same plus 1 other level 1
- Facet joint problem only 1
  
- Total 11

# Achievements of Study

1. Showed efficacy of epidural steroid injections to be relatively high
2. In patients who had MRI scans, reasonable concordance of clinical with MRI findings

Major discordance – Facet joint not disc - 1

Minor discordance – Disc lesion diff level - 3

Disc lesion add level - 1

# Limitations of study

1. No control group ,but in 2004 this would be hard to arrange
2. Therefore ,hard to say how much epidural injections alter the natural history
3. Only a small proportion of patients had an MRI to confirm their clinical picture
4. Follow up limited to 6 months

# How do they work?

- Actions of epidural steroid injections
- Corticosteroids      Local anaesthetics
- 1-Anti-inflammatory      1-Separate anti-inflammatory effects
- 2-Stabilise neural membranes      2-Improve intraradicular bloodflow
- 3-Suppress ectopic discharge within sensitised dorsal root ganglion      3-Reduce neural dysfunction in injured nerve roots
- 4-Direct anaesthetic effect on c fibres

# Literature

- Nielemans PJ et al
- Injection therapy for subacute and chronic low back pain
- The Cochrane Library Issue 3 2002
- Mixed group of 21 randomised trials
- Only some of these were for sciatica
- Tendency towards results favouring active injections over placebo

# Literature ,contd

- Lutz et al
- Fluoroscopic transforaminal lumbar epidural steroids –an outcome study
- Arch Phys Med Rehab 1998 ;79:1362-6
- Results:
- 75% successful outcome
- Defined as- over 50% reduction in pre injection pain , plus return to at or near previous level of function

# Literature ,contd

- Vad et al
- Transforaminal epidural steroid injections in lumbosacral radiculopathy
- Spine 2002 ; 27:11-16
- Results:
- Transforaminal epidural steroid 84% success
- Saline trigger point injection 48% success
- Non-responders from trigger point group
- Later given epidural steroid injection 67% success

# Conclusions

- In this study:
- 1-Lumbar epidural steroid injections were effective management of lumbar radiculopathy - 79% of patients responded within 1 month
- 2-Only 6% of patients required surgery
- 3-Discordance of MRI results with clinical findings:
  - Major – 1 case
  - Minor – 4 cases