



Disclosures

- Mr McCarthy – Educational contract Globus
- Miss Lesley Anne Fox – Medical Student
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Background

- Nerve root block (NRB) and transforaminal epidural injections (TfESIs) are used to treat radicular leg pain
- Steroid theoretically reduces inflammation around the affected nerve roots
- Prior to 2018 depo-medrone 40mg was used - superseded by non-particulate 6.6mg dexamethasone then 3.3mg (COVID) - (40mg depo equiv 6mg dex)
- Previous studies have shown no difference in efficacy for different doses of **dexamethasone** (1) and no difference between using **steroid vs local anaesthetic alone** (2)



Objectives

- To evaluate whether the dose of steroid used in a lumbar NRB / TfESI impacts the efficacy of the injection
 - Reduced pain at 6 week follow up
 - Required repeat injection
 - Underwent subsequent surgery
- Comparison of 40mg depo-medrone, 3.3mg dexamethasone and 6.6mg dexamethasone



Methodology

- Data set 1997 injections from 2012-2023 - NHS and private sector
- Inclusion criteria: those who had a primary lumbar NRB / TfESI **alone**
- Exclusion criteria: other spinal injections (eg. facet injections, caudal epidurals), data sets for subsequent injections, those who had simultaneous facet injections, those who had previous spinal surgery, entries with no follow-up information
- PROMs data - British Spine Registry and surgeon's notes / PROMs
- SPSS (v.27) for statistical analysis



Results

- 383 patients
 - 64 had 3.3mg dexamethasone
 - 102 had 6.6mg dexamethasone
 - 217 had 40mg depo-medrone
- 212 males : 171 females
- Ave 55yrs (range 18-92)

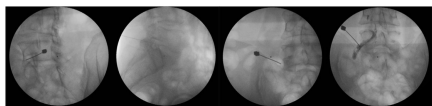
Diagnosis	Number of patients
Disc prolapse	162
Lateral recess stenosis	112
Foraminal stenosis	40
Disc prolapse + lateral recess stenosis	20
Disc prolapse + foraminal stenosis	7
Disc prolapse + lateral recess stenosis + foraminal stenosis	1
Lateral recess stenosis + foraminal stenosis	12
Spondylolisthesis – disc prolapse	2
Spondylolisthesis – lateral recess stenosis	21 (3 also had facet cysts)
Spondylolisthesis – foraminal stenosis	5
Spondylolisthesis – lateral recess stenosis + foraminal stenosis	1



Results

- Significant difference between steroid doses ($p < 0.001$) but not between dexamethasone doses alone ($p = 0.642$)

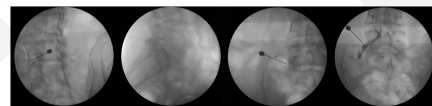
Steroid	Didn't work	Worked, wore off	Worked	Total
3.3mg dex	3 (4.69%)	29 (45.31%)	32 (50.00%)	64
6.6mg dex	3 (2.94%)	53 (51.96%)	46 (45.10%)	102
40mg depo	62 (28.57%)	98 (45.16%)	57 (26.27%)	217
Total	68	180	135	383



Results

- Significant difference in the number of patients requiring a repeat injection ($p < 0.001$)

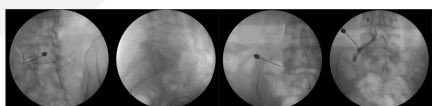
Steroid	No repeat	Repeat injection	Total
3.3mg dex	43 (67.19%)	21 (32.81%)	64
6.6mg dex	82 (80.39%)	20 (19.61%)	102
40mg depo	68 (31.34%)	149 (68.66%)	217
Total	193	190	383



Results

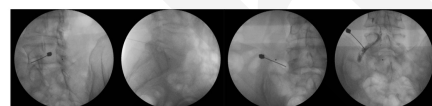
- No significant difference in the number referred for spinal surgery ($p = 0.341$)

Steroid	No surgery	Subsequent surgery	Total
3.3mg dex	44 (68.75%)	20 (31.25%)	64
6.6mg dex	80 (78.43%)	22 (21.57%)	102
40mg depo	157 (72.35%)	60 (27.65%)	217
Total	281	102	383



Conclusion

- Dexamethasone appears to be more effective than depo-medrone in lumbar NRB / TfESI in reducing radicular leg pain (short term) and requirement for repeat injection (not operation)
- No difference in efficacy between dexamethasone doses suggesting no benefit using the higher dose



References

- Ahadian FM, McGreevy K, Schulteis G. Lumbar transforaminal epidural dexamethasone: a prospective, randomized, double-blind, dose-response trial. Reg Anesth Pain Med. 2011;36(6):572-8. doi: 10.1097/AAP.0b013e318232e843
- Tafazal S, Ng L, Chaudhary N, Sell P. Corticosteroids in peri-radicular infiltration for radicular pain: a randomised double blind controlled trial. One year results and subgroup analysis. Eur Spine J. 2009;18(8):1220-5. doi: 10.1007/s00586-009-1000-2

