Rootogram To Success?

K.K.Lingutla, S.Gudipati, M.J.H.McCarthy
Aim

- Determine whether confirmatory rootogram is associated with a “good outcome”
Materials and Methods

- Prospective observational cohort
- Consecutive patients
- Single surgeon
- 2-year period regional tertiary spinal unit (NHS)
- Independent analysis:
  - position of the needle
  - rootogram present
  - medial dye spill around pedicle
Outcome Measures

• Patient reported pain relief from injection
  – Did it work?

• Operation subsequently performed

• Pre-operative and post-operative (3/12)
  – Visual analogue score back and leg pain
  – Oswestry disability index
Results

• Sept 2012 to Sept 2014
• 106 patients
• Males = Female
• Mean age 53.3yrs
• Pathology (some overlap):
  – Disc Prolapse 52/106
  – Lateral recess stenosis 45/106
  – Foraminal stenosis 23/106
  – Spondylolisthesis 18/106
Results

• Mean duration symptoms 18 months
  – 95% CI 15-21 range 2-96
  – 9 pts < 6 months
  – 33 pts < 12 months

• < 12 months > No effect on outcome
  – Injection worked p=0.3
  – Subsequent operation p=0.1
Results

- Needle position good 100%
- Rootogram 57%
- Epidural spill 50%
- Rootogram or epidural spill 69%

- $\frac{72}{106} = 68\%$ Injection worked
- $\frac{34}{106} = 32\%$ went on to have an operation
Results – Subsequent Operation

- No rootogram $p=0.02$
  - 19 op / 45 no rootogram vs 13 op / 60 rootogram +

- No epidural spill $p=0.03$
  - 21 op / 50 no epi spill vs 12 op / 53 epi spill +

- Neither $p=0.006$
  - 16 op / 33 neither vs 16 op / 73 either +
• Only epidural spill associated $p=0.02$
  
  – 29 worked / 50 no epidural spill
  vs 42 worked / 52 with epidural spill
Validation

• Hourigan et al. 2014 Britspine – 33% op
  – No further treatment 44-46%

• Anjarwalla et al. 2011 SBPR – 34% op

• Riew et al. JBJSA 2000 – 29% op

• This study – 32% op
• Medial epidural spill seems to be associated with a better outcome - injection works / less operation

• If poor rootogram / epidural spill - consider repeating...

• Worth doing injections even if > 1 year symptoms...

• Reaudit in future and investigate < 3/12 symptoms
Thank you
none of the authors has any potential conflict of interest