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***Relation between
lumbar stenosis
severity and
redundant nerve
root sign.***

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Background

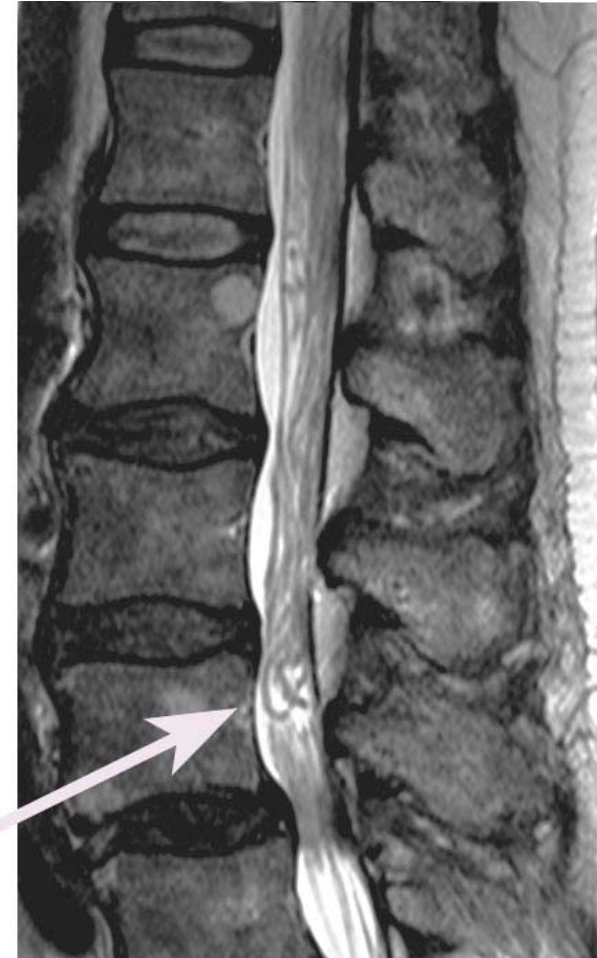
Redundant nerve roots sign

observed on myelography and MRIs in relation to myelographic blocs and lumbar spinal stenosis (LSS)



rootlets
coiled
in tress
manner

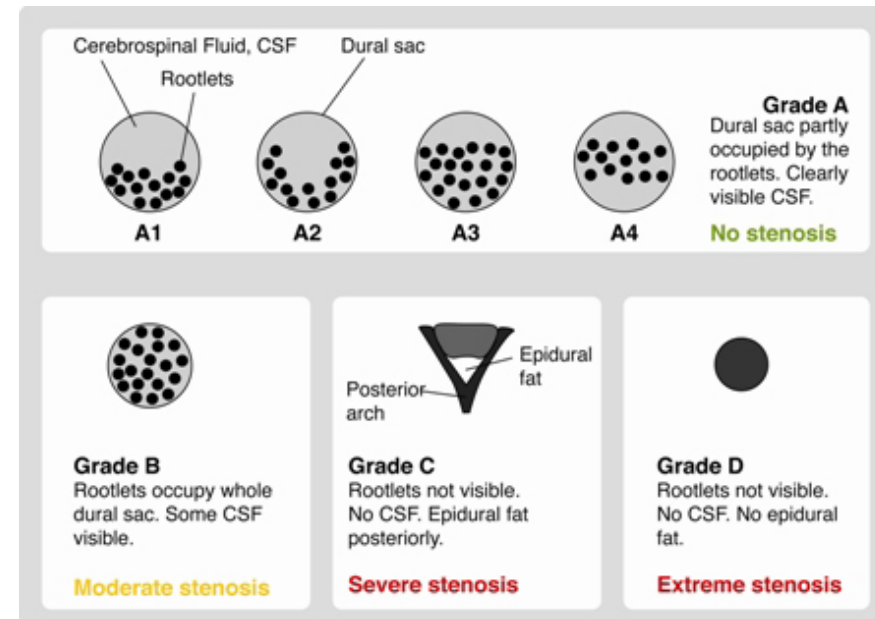
rootlets coiled
in serpentine
manner



Background

Aim

- study the relation of the presence of redundant roots in a cohort of patients with symptomatic LSS or low back pain (LBP)
- degree of spinal stenosis as judged by the A to D morphological grade
- relation between the above mentioned sign and likelihood of failure of conservative measures in symptomatic LSS patients.





Patients and Methods

Patients:

144 patients divided in three groups

- 42 LSS conservatively treated patients
- 75 surgically treated LSS patients
- 27 LBP subjects used as control

Primary outcome measure and analysis:

- presence of redundant nerve roots related to spinal stenosis morphology grade (A= no stenosis, D= extreme stenosis) from L1-S1 as observed on T2 MRI images.
- Patients with vascular claudication hip arthritis and previous back surgery were excluded.
- Statistical analysis included Chi² trend test and odds ratio.



Results

A positive redundant root sign:

- 1 of 27 patients of the LPB group ,
 - 9 of 41 in the LSS non surgical group,
 - 24 of 72 patients in the LSS surgical group,
- (P=0.0022).

Presence of redundant root sign in relation to number of severe and extreme stenosis levels (grades C and D) was as follows:

- no C or D morphology grade: 2 patients of 47 (4%),
 - one C or D morphology grade : 16 of 56 (29%),
 - two C or D morphology grades : 8 of 23 (35%),
 - three C or D morphology grades : 7 of 10 (70%),
 - four C or D morphology grades : 2 of 4 (50%),
- (P<0.0001).



Conclusion

- single and multilevel stenosis patients demonstrated a positive redundant root sign,
- multilevel stenosis patients with higher frequency of redundant root sign,
- patients demonstrating this sign were also more likely to fail conservative measures,
- redundant roots can serve therefore as a predictor of outcome in LSS patients.



Disclosure

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