



Sensitivity of Magnetic Resonance Imaging in the Diagnosis of Mobile and Non-Mobile L4-5 Degenerative Spondylolisthesis

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Introduction

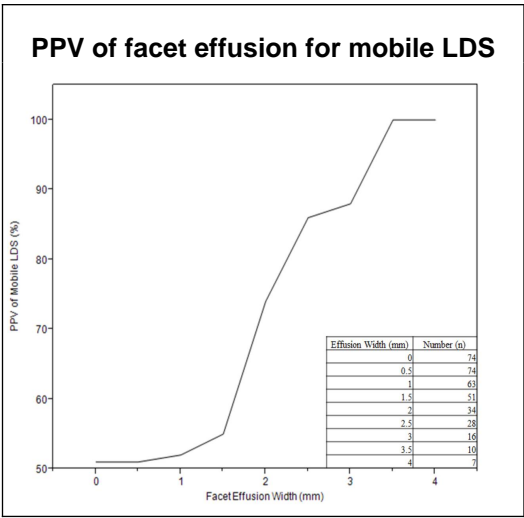
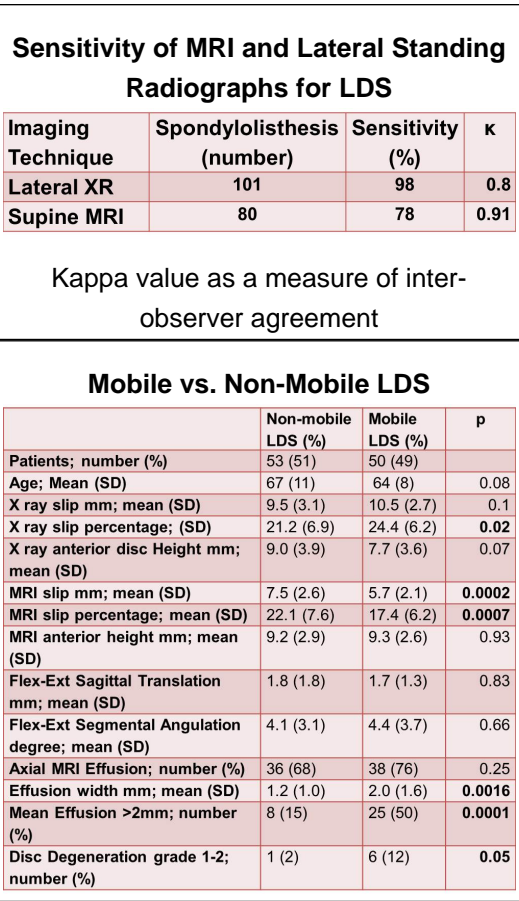
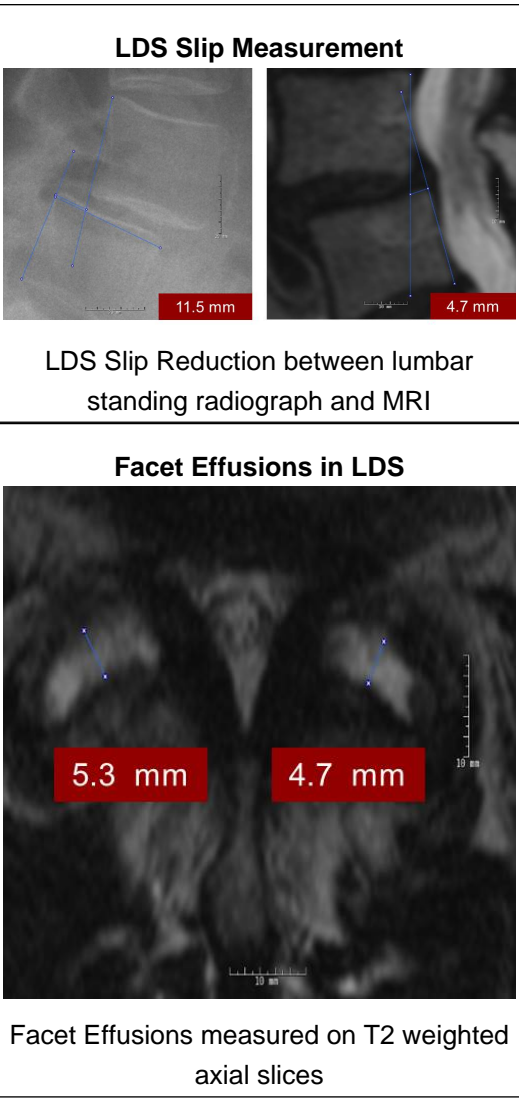
Lumbar degenerative spondylolisthesis (LDS) is often diagnosed by supine magnetic resonance imaging (MRI). Numerous studies have shown, however, that the degree of spondylolisthesis can be reduced or disappear when the patient is supine compared to standing.

Methods

Patients diagnosed with L4-5 LDS with both standing lateral and flexion-extension (SLFE) films and supine MRI were evaluated. LDS was defined radiographically as a slip greater than 4.5 mm. Mobile LDS was defined as a difference of greater than 3% in slip percentage between lateral radiographs and sagittal MRIs.

Results

Of 103 patients assessed, LDS was seen on 103 (100%) flexion-extension films, 101 (98%) lateral films, and 80 (78%) MRIs. 50 (48%) patients were identified with mobile LDS. The positive predictive value of facet joint effusion for mobile LDS increased from 52% for effusions greater than 1 mm to 100% for patients with effusions greater than 3.5 mm.



Conclusions

- MRI is less sensitive at detecting L4-5 LDS than lateral standing XR (78% vs. 98%)
- Mobile LDS is associated with L4-5 larger facet effusions on axial T2 weighted images