

**“The Surgical Result in Occult Lumbar Spinal Stenosis
Detected by Axial Loaded CT and MRI”**

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Abstract

Purpose

Axial loading during imaging can narrow the lumbar spinal canal especially in patients with different kinds of degenerative spinal stenosis. This has been shown in previous studies. However, the clinical significance from the surgical point of view has not been verified. The purpose of the present study was to evaluate whether occult stenosis, in patients with neurogenic claudication and/or sciatica, detected during axially loaded CT and MR imaging could lead to successful surgical results.

Methods and materials

250 patients with signs of neurogenic claudication or sciatica fulfilling the inclusion criteria for axial loaded imaging (dural sac cross sectional area less than 110 mm², suspected central or lateral canal during unloaded imaging) were examined until year 2002. 150 showed additional valuable information including 35 patients with occult spinal stenosis in 1-3 disc levels not detected at the traditional examination. The 35 patients were followed up at least 1 year after decompression with or without fusion. Validated outcome instruments were used.

Results

85 per cent of the 35 patients were satisfied with the surgical result. 80 % had no persisting leg pain and 90 per cent could walk more than 1000 m compared to less than 100 m up to 500 m preoperatively. 70 per cent could stand more than 60 min (< 10 min preoperatively). 60 % were back in work. (30 per cent were age pensioned).

Conclusions

The clinical effect of axial loading of the lumbar spine during CT and MR imaging could be proven in this study, which shows that occult spinal stenosis can be detected and lead to successful surgical results.