



To study presenting features in patients with degenerative lumbar canal stenosis and management with bilateral minimally invasive laminotomy- foraminotomy: An experience of 60 patients.

Amit Kapoor; Rajendra Prasad MD; A.S Arora
Indraprastha Apollo Hospitals, New Delhi

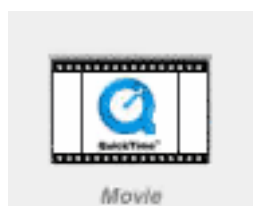


Introduction

To study presenting features in patients with degenerative lumbar canal stenosis and management with bilateral minimally invasive laminotomy- foraminotomy: An experience of 60 patients.

Methods

Retrospective-prospective study evaluating relation between MRI imaging and surgical outcome in patients treated for degenerative lumbar canal stenosis. 60 consecutive patients with neurogenic claudication with radiological evidence of lumbar canal stenosis without spondylolisthesis treated between January 2007 and December 2012. Presenting complaints with radiological findings were studied in all patients with bony canal cross sectional area and thecal sac area diameter at the disc level studied in last 20 patients. Surgical technique with failure rates and outcomes were assessed.



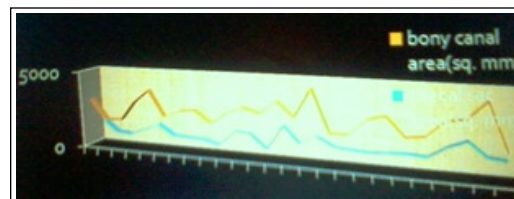
Results

M:F::2:1. Age range 29 to 82 years, mean age of 60.1 years. Claudication distance 15 to 200 meters, mean being 130 meters. 42 patients had lumbago along with neurogenic claudication. Duration of symptoms 2 months to 28 years with mean of 6 years. Number of levels : Single level in 29 patients, two levels in 23 patients and three levels in 8 patients. L4-5 level was most commonly affected (55%) and L2-L3 was least involved in 6% of cases. Cross sectional areas had bony area more than 1.8 cm² and thecal compression was due to soft tissue component with grade I(mild stenosis) in 24%, grade II(moderate) in 36% and grade III(severe) in 40% of patients. Bilateral laminotomy with total of 87 levels done with 20 levels requiring bilateral foraminotomy in addition. 3 patients had persisting symptoms requiring re-operation (laminectomy).

LIGAMENTUM ATTACHMENT



L4-5 MOST FREQUENT LEVEL INVOLVED



bony canal area thecal sac area sq. mm

316115441835747
188465031551034
395214592270808
27177392828712
210042728121416
323713362920413
375020492844943
462815062049942
20588623025779
32828802160915
228582932271497
3403193144491109
1781985985

3161	1544	1835	747
1884	650	3155	1034
3952	1459	2270	808
2717	739	2828	712
2100	427	2812	1416
3237	1336	2920	413
3750	2049	2844	943
4628	1506	2049	942
2058	862	3025	779
3282	880	2160	915
2285	829	3227	1497
3403	1931	4449	1109
1781	985	985	

bony area

Learning Objectives

1. Degenerative lumbar canal stenosis is primarily due to non bony soft tissue compression of thecal sac
2. Bilateral laminotomy- foraminotomy is a good treatment option for this group of patients.
3. Combined congenital and degenerative canal stenosis may require more extensive procedure for surgical decompression.

with(yellow) and without foraminotomy(blue)



additional laminectomy(blue)



Conclusions

Degenerative lumbar canal stenosis is primarily due to non bony soft tissue compression of thecal sac and bilateral laminotomy- foraminotomy is a good treatment option for this group of patients. Patients with combined congenital and degenerative canal stenosis may require more extensive procedure for surgical decompression.

One/ two/ three levels operated