

Outcomes of Minimal Invasive Spinal Decompression (Micro Lumbar Decompression) Technique In Lumbar Canal Stenosis



Medical Science

KEYWORDS : Lumbar canal stenosis, microlumbar Decompression , spinal stability

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ABSTRACT

Decompression surgery is an increasingly common operation for the treatment of lumbar canal stenosis. Although good relief from leg pain is expected after surgery, long term results of pain relief and function are more uncertain. This study retrospectively followed a cohort of patients presenting with the signs and symptoms of spinal stenosis, who underwent micro lumbar decompression surgery to ascertain the long term outcome with respect to pain and function using visual analogue pain scores, the Oswestry Disability Index

introduction

Lumbar Canal Stenosis is Narrowing of the spinal canal can cause chronic pain, numbness, and muscle weakness in legs . The condition primarily afflicts elderly people and is caused by degenerative changes that result in enlargement of the facet joints and thickening of the ligaments. Constriction of the spinal cord and nerves may be effectively relieved with a spinal decompression procedure if symptoms have not improved with physical therapy or medications.

Objective

- Assessment of Micro lumbar decompression for spinal decompression in degenerative lumbar canal stenosis involving multiple level with no instability

Mterial and Method

- 17 patient's with degenerative LCS
- Multi-level involvement
- No Instability
- Preop & Postop : Oswestry Disability Index & VAS
- Preop & Postop : CPK-MB & CRP
- Post-op MRI at 3 months to see multifidus changes
- Blood loss, operative time, hospital stay

Surgical Technique

- mid line incision
- Preservation of midline structures
- Bilateral micro decompression
- Widens canal without removing spinous process, interspinous ligaments and total lamina.
- Unilateral Approach with bilateral decompression.
- Opposite side muscles preserve
- Microscope or loupes used for visualization.
- Surgical procedure remains same as standard surgery.

Observation

Table No. 1

Parameters	MLD 2-3 Level
No. of Patients	17
Mean Age(Yr)	58.375+-13.46
Male:Female	13:04
Mean of Bloodloss (mL)	87
Mean of Operation time (min)	131
Mean of Hospital stay (in Days)	6

Table No. 2

Difference of VAS	MLD 2-3 Level
Pre-op- VAS	8.59
Discharge - VAS	7.41
6 weeks -VAS	6.06
3 months - VAS	4.00
VAS after 6 Months	2.53

Table No.3

Level of Decomp	L1-2, L2-3	L1-5	L2-3, L3-4, L4-5	L3-4, L4-5	L3-4, L4-5, L5-S1	L4-5	L4-5, L5-S1
MLD 2-3 Level	1		2	8	1		5

Table No.4

Difference in MRI Multifidus (cms)	Pre Op		Post Op	
	Right	Left	Right	Left
MLD 2-3 Level	5.05±0.65	5.03±0.65	5.03±0.63	4.44±0.73

Table No.5

Difference in biochemical markers	MLD 2-3 Level
Pre op CPKMB	16+-26
Pre op CRP	4+-6
Post op CPKMB	10+-30
Post op CRP	10+-134

Results

- VAS and ODI decreased indicating good clinical and functional recovery.
- No immediate post-op infection.
- Multifidus morphology well preserved with minimal fatty-atrophic changes in.
- Operative time was less.
- No Blood transfusion required.

Conclusion

- This technique achieve adequate neural decompression without compromising spinal stability.
- Can be performed with routine instruments and loupes.
- Quick recovery
- Lesser hospitalization stay

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