

# Surgical Management and Outcome of Lumbosacral Disc Herniation (Study of 100 Cases)

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## ABSTRACT

**Objective:** To discuss the surgical management and outcome of lumbosacral disc herniation.

**Material and Method:** The study was conducted in BMCH and Akram Hospital Quetta from April 2005 to November 2006, 100 patients of both gender included in study. Age range was 30-25 yrs. MRI lumbosacral spine done in all cases.

**Results:** Excellent result was observed in 80% of patients while fair result in 12% and results were same in 6% of patients. Poor result in 2%.

**Key word:** Lumbosacral Disk, Herniation.

## INTRODUCTION

The outstanding symptoms associated with compression of a Nerve root by a herniated lumbar disc is pain radiating to the posterolateral aspect of the lower extremity in addition to pain compression of the lumbosacral nerve roots will produce radiculopathy characterized by numbness, weakness and loss of tendon reflex.<sup>1</sup> Lumbosacral intervertebral disc commonly protrude or extrude posterolaterally the disc presses on a specific nerve root with resulting characteristic sign and symptoms of pain and neuropathy in one lower extremity.<sup>2</sup> However lumbar disc may also herniated in midline causing sign and symptoms in both lower extremity as well as bowel bladder dysfunction.<sup>3</sup>

Now a day MRI lumbosacral spine is the investigation of choice in axial and as well as in sagittal plane.<sup>4</sup>

## MATERIAL AND METHODS

The study was conducted in BMCH and Akram Hospital Quetta from April 2005 to November 2006.

## RESULTS

100 patients of both gender included in study. Age range was 30 – 25 years (Table 1). MRI lumbosacral spine done in all cases.

Excluding criteria was patients with spondylolisthesis, spinal stenosis, pathological disc and cauda equina syndrome.

**Table 1:**

Age	No. of Patients	Percentage
30 – 40 years	10	10%
41 – 50 years	25	25%
50 – 60 years	40	40%
Above 61 years	25	25%
Total	100	100%

Patient complaining only of backache 20 (20%), patient complaining of backache and sciatica 40 (40%), patients complaining of sciatica only 25 (25%), patient complaining of numbness 15 (15%). On MRI

lumbosacral spine multiple level disc observed in 14 (14%). Patients L<sub>5</sub> S<sub>1</sub> in 35 (35%), L<sub>4-5</sub> 40 (40%), L<sub>3-4</sub> 3 (3%), L<sub>2-3</sub> 6 (6%), L<sub>1-2</sub> 2 (2%).

**Table 2:** *Clinical Features.*

	No. of Patients	Percentage
Backache	20	20%
Backache + Sciatica	40	40%
Sciaticn	25	25%
Numbness	15	15%
Total	100	100%

**Table 3:** *On MRI level of Herniated Lumbosacral Disc.*

Level	No. of Patient	Percentage	Cummulative Percentage
L <sub>1-2</sub>	2	2%	2%
L <sub>2-3</sub>	6	6%	8%
L <sub>3-4</sub>	3	3%	11%
L <sub>4-5</sub>	40	40%	51%
L <sub>5</sub> S <sub>1</sub>	35	35%	8.6%
Multiple Level	14	14%	10%
Total	100	100%	100%

**Operative Approach**

In all patient the position was prone with midline lumbar skin incision was used.

Hemilaminectomy done in 25 patient's right and left sided was chosen according to the clinical feature

**Table 4:** *Surgical Procedure.*

Procedure	No. of Patients	Percentage	Cummlative Percentage
Hemilaminectomy	25	25%	25%
Fenestration	30	30%	30%
Laminectomy+ Discectomy	45	45%	45%
Total	100	100%	100%

of the patients and MRI finding. Fenestration was done in 30 patients (30%) laminectomy and Discectomy was done in 45 patients.

We used microsurgical technique in those patients who have for lateral lumbar disc 5 patients (5%) using with unilateral fenestration and interlaminar approach. The dissection was carried out using the intertransverse approach for removal of the extra foraminal part of disc. After preservation of the Nerve root.

**OUTCOME AND COMPLICATIONS**

Follow up was carried out in all patients for 1 year. Excellent recovery was observed in 80% of patients who have free of back and Sciatica.

Fair results in 12% in that sciatica was relieved but patients complaining of backache. In 6 patients the results remain same. While one patient develops partial foot drop and one patient develop discitis postoperatively (Poor outcome).

**DISCUSSION**

The lowest two lumbers interspace i.e. L<sub>4-5</sub> and L<sub>5</sub> – S<sub>1</sub> are the most common sites for herniated lumbar intervertebral disc. Protrusion of L<sub>5</sub> – S<sub>1</sub> causes compression of S<sub>1</sub> nerve root with resulting pain along the lateral surface of the foot and weakness in planter flexion. In case of L<sub>4</sub> – L<sub>5</sub> compression pain in dorsum of foot and weakness of dorsi flexion, MRI is the investigation of choice before the era of MRI Myelogram was helpful. An electrophysiology is not necessary to decide for surgery. In multiple levels prolapse disc electrophysiology is helpful.

In our series the majority of patients was male and belongs from labour profession. This correlate with the other study's<sup>5</sup> because the reason may be male is hard worker in our part of world and labor class is due to over use of back and poor nutrition. In our series majority of the patients were in their late 4<sup>th</sup> decade and early 5<sup>th</sup> decade. This may be due to the fact the degeneration disease were common in this age group.

In our study lower lumbar region was the common in the majority of patients. This is the reality which shown also with other studies.<sup>6</sup> Backache and sciatica was the common clinical findings in majority of our patients.

We did laminectomy + Discectomy in the majority of the patients when required we did fenestration in those patients with disc as far lateral.

In some cases wedid Hemilaminectomy and fenes-

tration only, Majority of those patients have single level disc which is the standard procedure now a day.<sup>6</sup>

We have excellent recovery in 80% of patients which corresponds many other studies.<sup>7</sup>

In our study 6% of patients remain same this number of patients are higher compare to other international studies which may be due to poor selection of patients.<sup>8</sup>

In our study only one patient develop discitis which not correlate to other studies in whom the number of discitis not same<sup>9</sup>. This may be due to appropriate sterilization and pre-operative antibiotic.

In our series only one patient develop partial fort drop this was due to nerve evulsion per operatively.

### CONCLUSION

From this study we conclude that the lumber disc herniation is common in male and labour group in our part of world because of over use of spine. Clinical findings are backache and sciatica in majority of patients, and the lower lumber level is relatively common site. MRI is investigation of choice. Laminectomy + Discectomy is procedure of choice in those patients were more than one disc involve.

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