Original Article

Lumbar Interverterbral Disc Prolapse (PLID) Surgery and Our Experiences

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Abstract

Background: *Back pain and sciatica are very common in adult persons. These cause a great loss of working hours with financial loss of individual and the nation. Very careful evaluation must be done to treat these patients. Injudicious treatment, whether medical or surgical, may aggravate the sufferings.* ***Objective:*** *To study immediate and long term effect of the prolapsed intervertebral disc surgery.* ***Materials and Methods:*** *This observational study was done in Enam Medical College & Hospital, Savar, Dhaka during January 2007 to June 2011. Sixty four patients operated during this period for prolapsed lumbar intervertebral disc were included in the study. Fifty six (88%) were male and 8 (12%) were female. Age range was 30 to 50 years. Most of the patients presented with back pain and sciatica with no definite history of trauma or weight lifting. Diagnosis was confirmed by MRI.* ***Results:*** *Sixty (94%) patients had no pain after surgery and only 4 patients had occasional pain.* ***Conclusion:*** *Maintenance of strict criteria for the surgery yields very good result.*

Key words: *Disc prolapse, Lumbosacral spine, Back pain*

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Introduction

Humans have been plagued by back and leg pain since the beginning of the recorded history. Oppenheins and Krause performed the first successful surgical excision of a herniated intervertebral disc in 1909. Unfortunately they could not recognize the excised tissue as disc material and interpreted it as an enchondroma.[1] Dandy reported removal of disc tumour or chordoma from patients with sciatica in 1929.[2] In 1932 Barr attributed the source of sciatica to the herniated lumbar disc.[3] In 1939 Seemes presented a new procedure to remove the ruptured interverterbral disc that included subtotal laminectomy and retraction of the dural sac to expose and remove the ruptured disc with the patient under local anaesthesia.[4] Love in the same technic have done successful removal of disc independently.[5] Standard procedure for disc removal was total laminectomy followed by transdural approach of the disc.[1] Mixter and Barr[6] proposed lumbar fusion after excision of the disc to prevent instability. But Frymoyer et al[7] and others indicate that there is little if any advantage to the addition of spinal fusion. Causes of failed surgery are wrong diagnosis, wrong level of operation, recurrence of disc prolapse at the same level or another level.

Materials and Methods

This observational study was done in Enam Medical College & Hospital (EMCH), Savar, Dhaka during January 2007 to June 2011. We operated 64 patients by classical procedure. Among them 56 (88%) were male and 8 (12%) were female patients. Age range of

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the patients was 30-50 years. They presented with acute back pain and sciatica; 4 patients came with foot drop (2 unilateral and 2 bilateral) along with back pain and sciatica. We examined them clinically. All patients were positive for straight leg raising (SLR) test. Two patients had incontinence of urine and perianal hypoaesthesia.

On examination, there was no muscle wasting in any of our patients. Forty patients had hypoaesthesia on the lateral aspect of the foot and 20 patients had hypoaesthesia on the medial aspect. Thirty six patients had weakness of extensor hallucis longus muscles of the affected limb. Radiography of lumbo-sacral spine in antero-posterior and lateral views showed loss of normal lordotic curvature. All the patients except those with foot drop were given adequate conservative treatment. We treated them by nonsteroid anti-inflammatory drugs (NSAIDs) and physiotherapy for 3 weeks. Magnetic resonance imaging (MRI) of lumbosacral spine was done of those patients who did not improve with 3 weeks conservative treatment.

MRI confirmed single level disc prolapse in 60 patients and double level prolapse in 4 patients. Thirty six (63%) patients had left-sided disc prolapse, in 24 (31%) cases it was right-sided and in 4 (6%) cases it was bilateral. All patients were operated under general anaesthesia by classical procedure. Required investigations were done for anaesthetic fitness.

All patients were operated in prone position, keeping sand bolster under the chest. All were operated by posterior midline incision and classical fenestration was done by removing the ligamentum flavum and part of the upper lamina as much as required. After retraction of the dural sac and nerve root medially, the protruded disc material was exenterated by pituitary forceps. After haemostasis the wound was closed layer by layer. Blood transfusion was not required in any case. There was no complication during operation or postoperatively. Patients were discharged from the hospital within 6 to 10 days; stitches were removed after 12 to 14 days. They were taught back extension exercises during hospital stay and advised for exercises at home. They were advised to refrain from lifting heavy weights for at least 3 months.

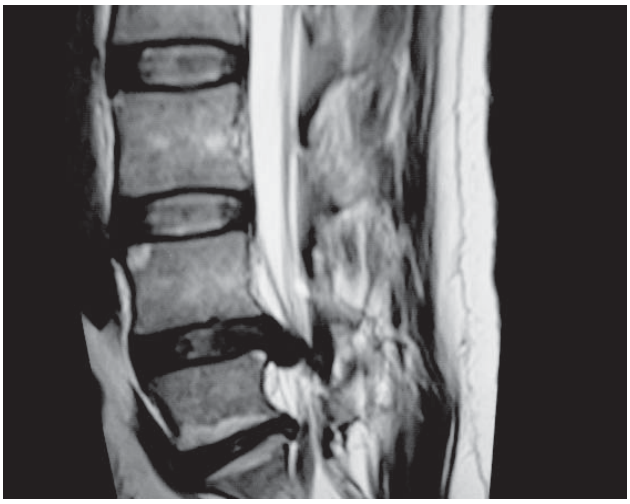

Fig 1. MRI of lumbar spine shows disc prolapse in longitudinal section

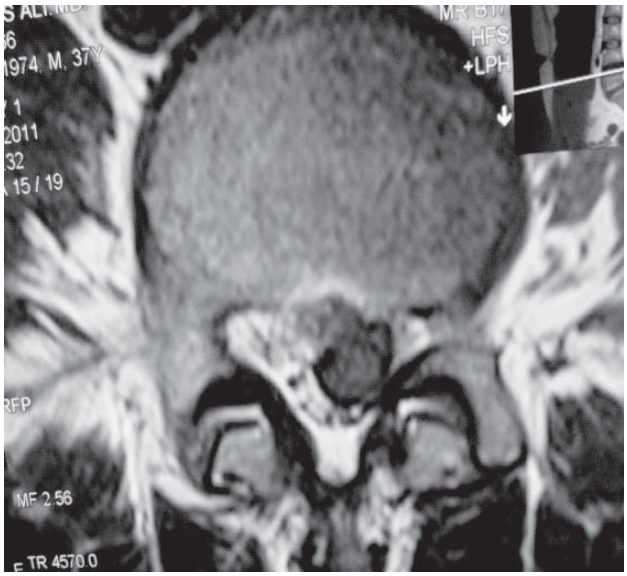

Fig 2. MRI of lumbar spine shows disc prolapse in axial section

Results

All patients were observed periodically in outdoor. Total 64 patients were operated. Sixty (94%) cases were completely cured from their back pain and sciatica. In our follow-up time 2 cases with foot drop recovered completely within 6 months. All these 60 patients returned to their previous job. The remaining 4 (6%) patients who were a bit older and had more than one level disc prolapse returned to their job, but had periodic back pain without sciatica. They required NSAIDs and physiotherapy.

Table I: Distribution of patients according to age (n=64)

Age in years	Number	Percent
30-35	20	31.20
36-40	24	30.80
41-45	16	31.80
46-50	04	06.20

Table II: Levels of disc prolapse (n=64)

Levels	Number	Percent
L 4/5	32	50
L 5/S1	28	43.80
L 4/5, L 5/S1	04	06.20

Table III: Distribution of disc prolapse according to side (n=64)

Side	Number	Percent
Right	24	30.80
Left	36	63.00
Bilateral	04	06.20

Table IV: Outcome of operation (n=64)

Result	Number	Percent
No pain	60	94
Occasional back pain	04	06

Discussion

Usually ninety percent of the patients become symptom-free by conservative treatment in the form of pelvic traction and exercise.[8] If conservative treatment fails, the next consideration is surgical intervention. Both the surgeon and the patient must realize that disc surgery is not a cure, only can provide symptomatic relief. It neither stops the pathological process that allows herniation to occur nor restores the back to a normal state. Patient must practise good posture and body mechanics after surgery. Activities involving repetitive bending, twisting and lifting with the spine in flexion should be curtailed or totally avoided. Modification in the life style of patients is necessary if long lasting relief is expected.

The key to the good result of disc surgery is appropriate patient selection. The optimum patient is one with unilateral leg pain extending below the knee that has been present at least for 6 weeks. The pain should have been decreased by rest and anti-inflammatory medication but should have returned to the initial level after a minimum of 6 weeks of conservative treatment.[1] Physical examination should reveal signs of sciatic irritation and possibly objective evidence of localizing neurological impairment. CT, MRI or myelography should confirm the level of involvement consistent with patient's examination findings.

Spangfort in reviewing 2504 lumbar disc excisions found that 30% of the patient complained back pain after disc surgery.[9] In our study, the overall outcome was very good as we selected the patients methodically, followed standard procedure of operation, postoperative management was good and we discharged the patients with required suggestion.

PLID surgery is not a routine surgery. Proper selection of the patient must be done before going to operation. Simple indentation by the disc in MRI or myelogram is not the indication for surgery. Clinical correction must be done before operation for good result. Psychiatric evaluation should also be done before surgery. From our study we can conclude that if the patients are selected properly, operated classically, managed appropriately after operation and discharged with required advice, classical discectomy can give good result.

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