

An assessment of lumbar intervertebral disc prolapse surgery at northern part of Bangladesh

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Abstract

Introduction: Prolapse of lumbar intervertebral discs (PLID) is a major cause of morbidity. Back pain and sciatica are very common in adult persons. More careful assessment must be done to treat these patients. Injudicious treatment, whether medical or surgical, may aggravate the sufferings.

Objective: This study aim was to assess the Lumbar Intervertebral Disc Prolapse (PLID) surgery at northern part of Bangladesh.

Material & Methods: This was a descriptive type of study. The study period extends from October 1, 2017 to September 30, 2019 (Two years). The study was carried out in the Department of Orthopaedic Surgery, Shaheed Ziaur Rahman Medical College Hospital (SZMC), Bogura, Bangladesh. We used purposive sampling method. Among the total study population 74 (70.48%) were male and 31 (29.52%) were female. Age range was 20-59 years. Written informed consent was obtained in favor of all the participants before enrolling into the study.

Results: A total of 105 patients were operated and observed periodically in outdoor. Most of them 70.48% of them were male. Majority 45.72% were aged between 30-39 years, 35.24% were in between 20-29 years age, 15.24% were in between 40-49 and 3.80% were aged between 50-59 years. preoperative symptomatology majority 47.62%) had radicular pain, 35.24% had low back pain and 17.14% patients had lower extremity numbness. Distribution of level of disk prolapse majority 55.25% were in between L4-L5 level. Outcome of operation where majority 92.38% of the patient had no pain.

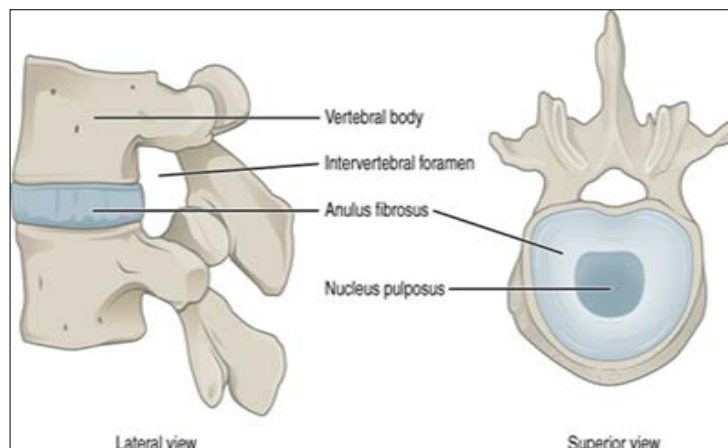
Conclusion: PLID surgery is not a routine surgery. Proper assessment of the patient must be done before going to operation.

Keywords: prolapse of lumbar intervertebral discs (plid), orthopaedic surgery, disk prolapse

1. Introduction

Prolapse lumbar intervertebral disc (PLID), frequently envisage in clinic, and might often encourage low back and leg pain. The occurrence is 1.9%–7.6% in men, and 2.2%–5.0% in women [1]. Indicative PLID is generally preserved with nerve root

decompression with conservation of bony and ligamentous stabilizers of the spine [2-5] The complete disappointing rate after discectomy is 3 to 20% [3, 6-8]. Its reappearance at the similar level irrespective of ipsilateral or contralateral herniation next disc excision is reported to be 5 to 11% [3, 6, 7, 9, 10].



Source: Google

Fig 1

Humans have been annoyed by back and leg pain subsequently the commencement of the recorded history. Oppenheims and Krause did the first successful surgical excision of a herniated intervertebral disc in 1909. Regrettably, they could not identify the excised tissue as disc material and interpreted it as an enchondroma [11]. Mixer and Barr [12]. raised lumbar fusion after excision of the disc to prevent stableness. But Frymoyer *et al* [13]. and others indicate that there is little if any benefit to the addition of spinal fusion. Causes of failed surgery are wrong prolapses at the same level or another level. Prolapse of lumbar intervertebral discs (PLID) is a major cause of morbidity.

2. Objectives

a. General objective

- To assess the Lumbar Intervertebral Disc Prolapse (PLID) surgery at northern part of Bangladesh.

b. Specific Objectives

- To identify the Lumbar Intervertebral Disc Prolapse (PLID) surgery at northern part of Bangladesh.
- To observe the Lumbar Intervertebral Disc Prolapse (PLID) surgery at northern part of Bangladesh.

3. Methodology and Materials

This was a descriptive type of study. The study period extends from October 1, 2017 to September 30, 2019 (Two years). The study was carried out in the Department of Orthopaedic Surgery, Shaheed Ziaur Rahman Medical College Hospital (SZMC), Bogura, Bangladesh. We used purposive sampling method to finalize the sample. Among them 74 (70.48%) were male and 31 (29.52%) were female. Age range was 20-59 years. Written informed consent was obtained in favor of the participants before enrolling into the study. A total number of 105 patients were included in the study. Most of the patients obtainable with back pain and sciatica with no positive history of trauma or weight lifting. Diagnosis was confirmed by MRI. According to the inclusion Criteria of the study, only the patients, who were medically fit to undergo the full treatment procedure, were included in the study. On the other hand, according to the exclusion criteria of this study, over aged geriatric patients as well as severely ill patients were excluded from the study.

4. Results

A total of 105 patients were operated and observed periodically in outdoor. Figure I show the gender distribution of the patients which shows that, most of them 70.48% were male and 29.52% were female. Table I shows the majority 45.72% were aged between 30-39 years, 35.24% were in between 20-29 years age, 15.24% were in between 40-49 and 3.80% were aged between 50-59 years. The distribution of preoperative symptomatology Table II shows that, majority 47.62%) had radicular pain, 35.24% had low back pain and 17.14% patients had lower extremity numbness. Table III shows the distribution of disc prolapse according to side where majority 57.14% of the patients were left sided, 36.20% patients were right sided and 6.66% were bilateral sided. Distribution of level of disk prolapse,

shown in table IV reflects that, 07.62% were in between L2-L3, 13.33% were in between L3-L4, 55.25% were in between L4-L5 and 23.80% were in between L5-S1 level. Table V shows the outcome of operation where majority 92.38% of the patient had no pain and the rest 7.62% had occasional back pain.

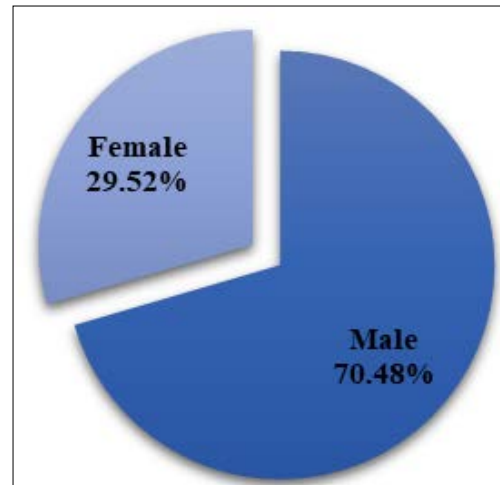


Fig 1: Gender distribution of the studied participants. (n=105)

Table 1: Distribution of patients according to age. (n=105)

Age in years	N	%
20-29	37	35.24
30-39	48	45.72
40-49	16	15.24
50-59	4	03.80
Total	100	100

Table 2: Distribution of Preoperative Symptomatology. (n=105)

Variables	N	%
Radicular pain	50	47.62
Low back pain	37	35.24
Lower extremity numbness	18	17.14
Total	100	100

Table 3: Distribution of disc prolapse according to side. (n=105)

Side	N	%
Right	38	36.20
Left	60	57.14
Bilateral	7	06.66

Table 4: Distribution of level of disk prolapse. (n=105)

Variables	N	%
L2-L3	8	07.62
L3-L4	14	13.33
L4-L5	58	55.25
L5-S1	25	23.80

Table 5: Outcome of operation (n=105)

Variable	N	%
No pain	97	92.38
Occasional back pain	8	07.62

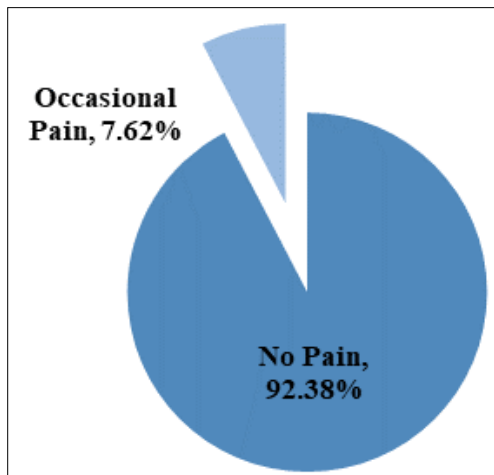


Fig 2: Pie chart shows the outcome of operation. (n=105)

5. Discussion

To get good result of disc surgery, patient selection needs to be appropriate. The ideal patient selection process is choosing those patients with unilateral leg pain spreading below the knee that has been existing at least for 6 weeks. The pain must reduce by rest and anti-inflammatory medication but then again should have given back to the early level after a minimum of 6 weeks of traditional treatment.¹¹ Physical investigation must disclose symptoms of sciatic irritation and perhaps impartial sign of localizing neurological damage. CT, MRI or myelography had better authorize the level of participation constant with patient's investigation results. From the preoperative symptomatology of our study findings we have seen that, majority 47.62% had radicular pain, 35.24% had low back pain and 17.14% patients had lower extremity numbness. If traditional treatment miscarries, the following consideration is surgical involvement. In cooperation the surgeon and the patient must appreciate that disc surgery is not a cure, only can deliver symptomatic relief. It doesn't stop the pathological procedure that lets herniation to arise also doesn't return to a usual state. Patient have to exercise good posture and body mechanics after surgery. From our study findings we have seen that, 92.38% of the patient had no pain and 7.62% had occasional back pain after disk surgery. A study done by Spangfort in reviewing 2504 lumbar disc excisions shows that 30% of the patient complained back pain after disc surgery^[14], which contradicts our findings. In our study, the total outcome was very good as we carefully chosen the patients systematically tracked standard technique of operation, postoperative management was good and we discharged the patients after giving mandatory recommendation.

6. Limitations of the study

It was a descriptive type of study with small sample size, which doesn't reflect the scenario of the whole country.

7. Conclusion and Recommendations

PLID surgery is not a routine surgery. Proper assessment of the patient must be done before going to operation. Clinical improvement must be done before operation for good result. Psychiatric assessment 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.

8. References

1. Wu JP, Qiu FZ, Huang JS. Surgery. Beijing: Public health publishing house, 2000, 2216-2221.
2. Mathews HH, Long BH. Minimally invasive techniques for the treatment of intervertebral disc herniation. *J Am Acad Orthop Surg*, 2002; 10:80-5.
3. Morgan-Hough CV, Jones PW, Eisenstein SM. Primary and revision lumbar discectomy. A 16-year review from one centre. *J Bone Joint Surg Br*, 2003; 85:871-4.
4. Gibson JN, Waddell G. Surgical interventions for lumbar disc prolapse: updated Cochrane Review. *Spine (Phila Pa 1976)*, 2007; 32:1735-47.
5. Hardy RW Jr. Lumbar discectomy; surgical tactics and management of complications. In: Frymover JW, editor. *The adult spine. Principle and practice*. 2nd ed. Philadelphia: Lippincott-Raven; 1997, 1947-59.
6. Cinotti G, Roysam GS, Eisenstein SM, Postacchini F. Ipsilateral recurrent lumbar disc herniation. A prospective, controlled study. *J bone Joint Surg Br*. 1998; 80:825-32.
7. Suk KS, Lee HM, Moon SH, Kim NH. Recurrent lumbar disc herniation: results of operative management. *Spine (Phila Pa 1976)*. 2001; 26:672-6.
8. Acharya KN, Nathan TS, Kumar JR, Menon KV. Primary and revision lumbar discectomy: a three-year review from one center. *Indian J Orthop*. 2008; 42:178-81.
9. Connolly ES. Surgery for recurrent lumbar disc herniation. *Clin Neurosurg*. 1992; 39:211-6.
10. Fandino J, Botana C, Viladrich A Gomez-Bueno J. Reoperation after lumbar disc surgery: results in 130 cases. *Acta Neurochir (Wien)*, 1993; 122:102-4.
11. William KD, Park AL. The back. In: Canale ST (ed). *Campbell's operative orthopaedics*. 10th edn. Philadelphia Pennsylvania: Mosby, 1998; 1955-2028.
12. Mixer WJ, Barr JS. Rupture of the intervertebral disc with involvement of the spinal canal. *N Engl J Med*. 1934; 211:210.
13. Frymoyer WJ, Hailey EN, Howe J. A comparison of radiographic finding in fusion and nonfusion patients ten or more years following lumbar disc surgery. *Spine*. 1934; 5:435.
14. Spangfort EV. The lumbar disc herniation: a computer aided analysis of 2504 operation. *Acta Orthop*. 1972; 142(2):1.