



DISCECTOMY BY HEMILAMINECTOMY FOR LUMBAR DISC SYNDROME

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ABSTRACT

Our objective is to study and evaluate the clinical outcome of surgical treatment of lumbar disc prolapse by hemilaminectomy and discectomy technique. 32 patients were operated in ASRAM medical college and hospital , eluru. All patients were available for follow up by visits or questionnaire by letters. Mean follow up of 32 patients was 9 months with a minimum of 3 months and maximum of 24 months. Patients with clinically and radiologically diagnosed lumbar disc prolapse with following indications like disc prolapse with bowel and bladder symptoms(cauda equina syndrome), disc prolapse with severe sensory or motor deficits, disc prolapse with progressive neurological deficits, disc prolapse with sciatica(unilateral or bilateral sciatica) which is decreased by conservative measures (rest ,anti-inflammatory medication or even epidural steroid) but returned to initial level after a minimum of 6-8 weeks of above mentioned conservative methods and age group of 20-60 years..

• Exclusion criteria includes lumbar disc prolapse other than L4-L5and L5-S1, far lateral disc prolapses compressing the nerve in the forearm as proved by CT scan or MRI, recurrent disc herniations and presence of other associated spinal pathology Out of 32 patients at the time of discharge, 28 patients (87.5%) could walk independently without any aid and without any radicular pain. 4 patients with little radicular pain and with support. In most of the patients 28 (87.5%) sciatica improved immediately. CONCLUSION- Hemilaminectomy and discectomy is a safe and reliable method treating patients with lumbar disc prolapse who have been closely scrutinized for surgery.

KEYWORDS- DISCECTOMY BY HEMILAMINECTOMY,lumbar syndrome



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INTRODUCTION

Discectomy is a common procedure carried out for treatment of lumbar disc prolapse. In lumbar disc surgery pain is the most important indication, but neurologic symptoms and signs are also important consideration. In most reports the post operative changes in neurological signs and functional recovery from pain has shown striking variations. These variations may be caused by several factors, including differences in patient selection and examination technique, but this is difficult to assess because methodological details are rarely provided. The reproducibility of neurologic signs is moderate and opinions on the value of neurologic signs are divergent². The traditional extensive laminectomy and discectomy went into disrepute because of extensive disruption of posterior stabilizing structures of spine and its later complications. Hemilaminectomy and discectomy produced the same results but is less time

consuming, has less blood loss and less postoperative morbidity.

MATERIALS AND METHODS

32 PATIENTS were operated in ASRAM medical college and hospital Eluru. All patients were available for follow up by visits or questionnaire by letters. Mean follow up of 32 patients was 17 months with a minimum of 9 months and maximum of 24 months. Mean breakup for a followup period of 9 months 4 patients turned up and for a follow up period of 15 months 9 patients turned up for a follow up period of 21 months 15 patients turned up and for a followup period of 24 months 5 patients turned up. We have used PROLO functional economic scale pre operatively and during followup for outcome analysis of economic and functional status. The results of surgery are evaluated using Mac Nabs criteria along with PROLO SCORE.

Economic status

- E1: Completely invalid
- E2: No gainful occupation including ability to do household work or
- E3: Able to work but not at previous occupation.
- E4: Working at previous occupation but part time or limited status.
- E5: Able to work at previous occupation with no restriction of any kind.

Functional status

- F1: Total incapacity or worse than before.
- F2: Mild-to-moderate level of back pain or sciatica.
- F3: Low level of pain and able to perform all activities except sport activities.
- F4: No pain, but patient had one or more occurrences of low back pain or sciatica.
- F5: Complete recovery no pain.

Total score

- 5 or less: Poor outcome
- 6 – 7: Moderate outcome
- 8 – 10: Good outcome

Mac nab's criteria⁶

Good

- i. Resumed preoperative function
- ii. Occasional backache or leg pain

- iii. No dependency inducing medication intake
- iv. Appropriate activity
- v. NO objective signs of nerve root irritation

Fair

- Intermittent episodes of mild radicular or low back pain.
- No dependency inducing medication intake
- Appropriate activity
- No objective sign of nerve root irritation.

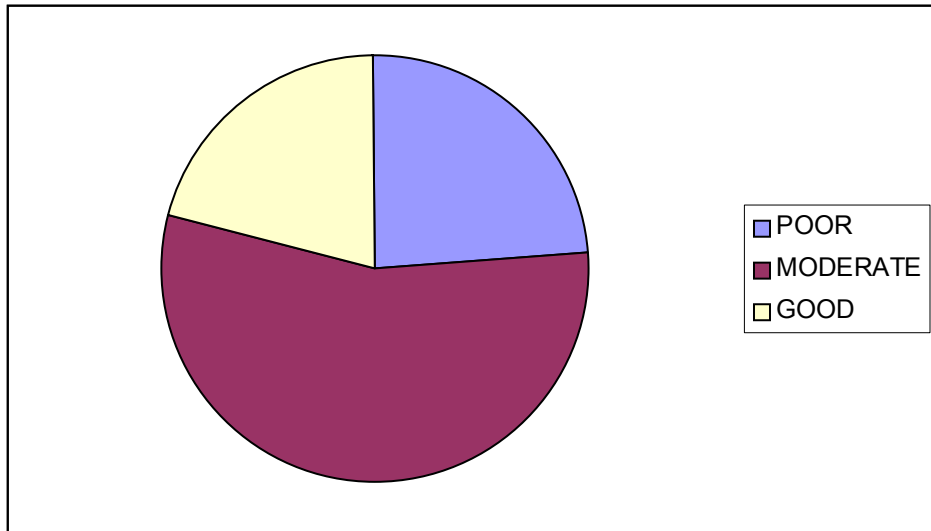
Poor

- Inactive
- No productive occupation
- Continuing or worsening symptoms
- 32 patients were followed up for a period of 9 months following this surgery and outcome was analyzed.

According to PROLO SCALE:

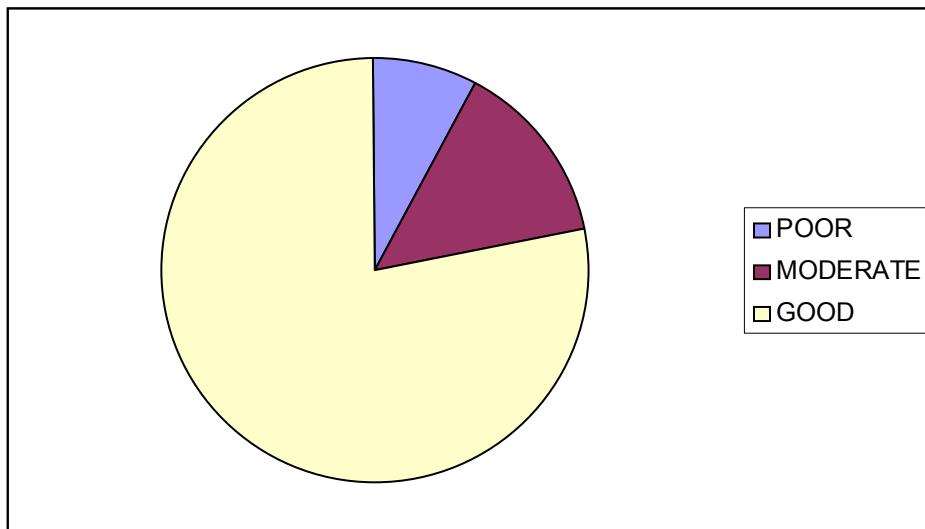
PRE-OPERATIVE ANALYSIS

We had poor score in 8(24%) of patients, moderate score in 18(55%) of patients and good score in 6(21%) of patients.



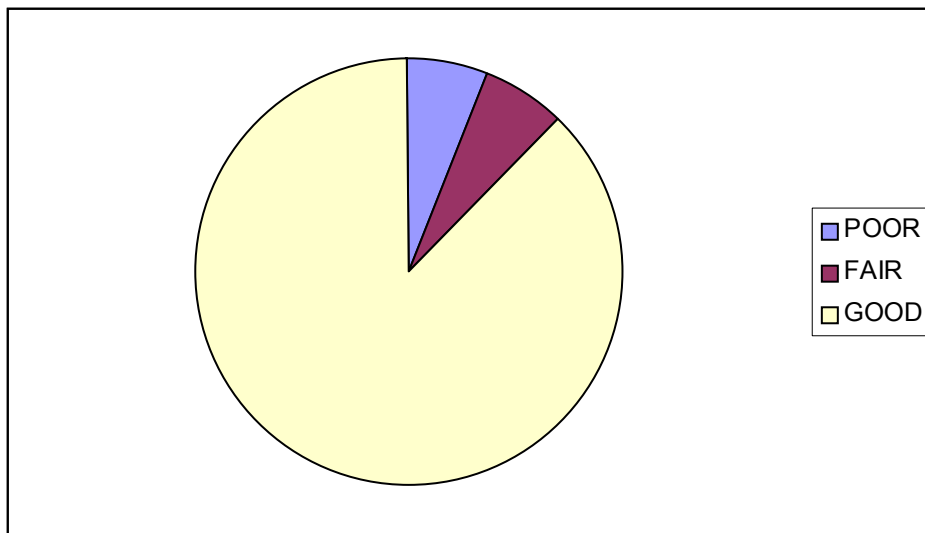
POST-OPERATIVE ANALYSIS

We had a good outcome in 25(78%) of patients, moderate outcome in 5(14%) of patients and poor outcome in 2(8%) of patients.



According to Mac Nab's criteria

We had a good outcome in 28(87.5%) of patients ,fair outcome in 2(6.2%) of patients and poor outcome in 2(6.2%) of patients .88% of patients have joined their original job,of which 87% are functional, 10% were doing same job but with limited capacity



OPERATIVE PROCEDURE

Patient is positioned in the prone knee-chest position, care being taken to see the abdomen is free so as to prevent undue engorgement of the epidural veins and thus decrease the extent of intra operative blood loss. A vertical mid-line incision is made after localizing the level of the disc. The para-spinal muscles are retracted and the interlaminar space is exposed. The ligementum flavum is excised with part of the lamina. The cord is retracted the disc herniation identified and discectomy

carried out using disc removing forceps. The entire disc at that level is removed. The cord and the roots are confirmed to be decompressed and lying freely in their respective canals. The wound is closed in layers and dressing done.

DISCUSSION

Although lumbar discectomy is a common operation, valid indications for operative treatment of patient who has herniation of

lumbar disc are still elusive and the results of such treatment have been inconsistent. Lumbar laminectomy is the most common operation for a herniated lumbar disc. But laminectomy has its inherent drawbacks of a prolonged surgical time, more blood loss and a delayed convalescence period. The post-operative complication (e.g., Arachnoiditis and adhesions) are found to be more when laminectomy is used as a procedure. To add this it is also found to Jeopardise the mechanical stability of the spine. In such a situation a surgical procedure which is less damaging to the stability of the spine, has a shorter surgical time, less blood loss, lesser incidence of post-operative complications and ultimately has a shorter convalescence period would be more beneficial. Discectomy by hemilaminectomy method is exactly that kind of a surgical procedure where in the inter laminar space is utilized and with removal of part of the lamina, the cord is exposed, retracted and the discectomy carried out. The present study analyses the results of this surgical technique on the basis of the clinical and functional outcome of the patient. The prolo economic-functional outcome score has been used to analyse the outcome. It is a very

simple method and more importantly gives the functional ability of the patient, because eventually it is the functional outcome that has an ultimate impact on the patient. The ability of the patient to get back to his previous level of activity so as to be economically independent is what concerns the patient the most. So the prolo scale is designed to analyse this very outcome following any spine surgery.

CONCLUSION

Of the numerous methods of discectomy for the treatment of lumbar disc herniation herniation discectomy by hemilaminectomy method is one of the procedures. This study analyzed the functional and neurological recovery following the surgery. Good neurological recovery was noted but neurological status had no influence over the functionalfunctional recovery of the patients. The duration of symptoms had no influence on the outcome of the of the surgery. Thus, it is clear from the study that hemilaminectomy and discectomy is an effective effective surgery for functional and neurological recovery of patients with lumbar disc prolapse.

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