



Functional Outcome of Intervertebral Disc Prolapse Treated with Epidural Steroid and Local Anaesthetic – Prospective Study

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INTRODUCTION

Disc prolapse amounts for 5% of lower back disorders. Intervertebral disc prolapse can be treated conservatively or surgically.

The intervertebral disc is subject to continuous and progressive degenerative changes throughout life, L3,L4,L5 showing greatest degree of degeneration.

Clinical features can be discussed under three headings:

Low backache: Back pain is common in the second decade, disc disease and disc herniation in the third or fourth decade.

Radiculopathy: This refers to pain in the distribution of the sciatic nerve and is invariably due to disc herniation. This is called as sciatica.

Nerve root compression: About 95 percent of the disc prolapse takes place through the L4-5 region compressing the L5 nerve root. The other nerve roots commonly involved are L4 and S1 due to disc prolapse between L3-4 and L5-S1 respectively.

The conservative methods include (1) bed rest (2) anti-inflammatory drugs (3) various forms of physiotherapy (4) manipulation and exercise training (5) corsets (6) epidural nerve

Epidural Steroids

Epidural steroids are a symptomatic method of treatment, and consist of injecting a long-acting steroid and a local anesthetic into the epidural space. Its effect lasts for three weeks and is useful for sub acute and chronic cases. It also reduces dependence on narcotics in chronic cases.

All about epidural steroid injection:

- In vogue since 1950's.
- Effective in approximately 50 percent patients with low backache.
- It decreases inflammation and flushes out inflammatory proteins thereby reducing pain.
- It helps in better back rehabilitation.
- Maximum of three injections in a year with a two-week gap is given.

- Adverse features include infection, dural puncture and arachnoiditis.
- It primarily decreases leg pain.
- After the injection, the patient is advised one-day rest.

Mechanism of action of epidural steroids

1. Decreases surrounding edema
2. Sequestration of antigen from disc

There are three different ways to perform an epidural injection:

- Caudal Block
- Translumbar
- Transforaminal

AIMS AND OBJECTIVES

To study the functional outcome of epidural steroids and local anaesthetics in patients with intervertebral disc prolapse.

MATERIALS AND METHODS

The study population was the patients with low back ache attending Orthopaedics OPD at Govt. Medical College, Thrissur during the period: 01-01-2014 to 31-06-2015.

Inclusion criteria

Unilateral lumbar radiculopathy clinically or radiologically proved to be due to prolapsed disc

Exclusion criteria

- 1) Motor weakness
- 2) Autonomic damage (bowel and bladder)
- 3) Massive prolapse without sequestration, pain corresponding to nerve root
- 4) Scoliosis
- 5) Developmental dysplasias
- 6) Cauda equine syndrome
- 7) Tumours of lumbar region
- 8) severe paresis,
- 9) severe pain,
- 10) previous spinal injection or surgery,
- 11) deformity,
- 12) pregnancy,
- 13) ongoing breast feeding,
- 14) warfarin therapy,

- 15) ongoing treatment with non-steroidal anti-inflammatory drugs,
- 16) body mass index >30,
- 17) poorly controlled psychiatric conditions
- 18) severe comorbidity.
- 19) severe intraspinal pathology (large disc herniations occupying more than 50% of the spinal canal),
- 20) spinal stenosis,
- 21) dural fistula,
- 22) synovial cysts,
- 23) dysraphia

The following data was obtained from all participants using a predefined proforma. Age, sex, occupation, socioeconomic status, nature of trauma, comorbidities, clinical examination, radiological work up and informed written consent. Each procedure was carried out by a senior surgeon in the department of Orthopaedics. 30 cases of intervertebral disc prolapse, treated at the Orthopedic Department of GMC, Thrissur were included in the study

Epidural steroid injections were given through caudal route. Steroid used was TRIAMCINOLONE (TRICORT) 80 mg and LIGNOCAINE (5%) 2.5 ml and diluting it with distilled sterile water up to 20 ml of total volume.

Procedure

Local anaesthesia with 5% lignocaine at site of injection. The patient is positioned in a prone position to expose the sacral hiatus

Entry point: The entry point is the sacral hiatus

A 16 G I V cannula (stilette) was passed through the sacral hiatus after palpating it digitally. The I V cannula is advanced into the epidural space. Proper placement of cannula is confirmed by testing for no resistance.

After confirming the position of cannula a mixture of 80mg Triamcinolone (steroid), 1.5 ml of 5% lignocaine (local anaesthetic) and sterile water to make a total volume of 20 ml is injected into the epidural space.

Patient is then made lie on the side with symptomatic side as dependent position.

Successful injection is marked by

- 1) Injection of cocktail (mixture) without resistance, showing needle to be situated in epidural space.
- 2) Decrease in paresthesia to foot.

Patients were assessed using the Japanese Orthopedic Association Low Backache score.

RESULTS

Age and sex Distribution

We found that IVDP was common between the 4th and 5th decades of life with mean age of 50 years. Female predominance was seen in our series i.e 18 of our patient were male (60%) and 12 were female (40%)

Occupation of patient

In our series patient with Agriculture as occupation were 10 (33.33%), mechanic 1 (3.33%), house wife 8 (26.66%), clerk 1 (3.33%), merchant 4 (13.33%), coolie 6 (20%).

Pre treatment symptoms

In our series all 30 (100%) patients had LBA and Radicular pain, 6 (20%) patients had paraesthesia and 0/ no (0%) patients had weakness and sensory loss.

TABLE – 1 Nerve tension signs

SLRT	3
LASEGUES TEST	2
SLRT+ LASEGUES TEST	25
TOTAL	30

In our study 3 (10%) were SLRT positive, 2 (6.66%) patients were positive for Lasegues test and 25 (83.33%) were positive for both.

In our series 0 (0%) patients had JOA pre treatment scores between 0-3, 0 (0%) patients between 3-6, 19 (63.33%) patients between 6-9, 8 (26.66%) patients between 9-12 and 3 (10%) patients between 12-15.

In our series 0 (0%) patients had JOA post treatment score between 0-3, 0 (0%) patients between 3-6, 1 (3.33%) patients between 6-9, 0

(0%) patients between 9-12 and 29 (96.66%) patients between 12-15.

Rate of improvement

Japanese Orthopedic Association Score for Low Backache was used for evaluating the results.

TABLE – 2 Rate of improvement

< 49%	1
50% - 74%	4
75% - 89%	22
>90%	3

Based on the above score, the final results were as follows:

3 (10%) patients had excellent results, 22 (73%) patients had good results, 4 (14%) patients had fair results and 1 (3%) patient had poor results

CONCLUSIONS

Treating Intervertebral disc prolapse with a mixture of Epidural steroid (Triamcnenolone 80 mg) and Local anaesthetic (5% lignocaine 1.5ml) is a very effective and successful method.

Epidural Steroid and Local anaesthetic mixture is effective in controlling low backache and radicular pain caused by IVDP.

It allows the patient to go back to his / her work early as compared to other modalities of conservative treatment.

DISCUSSION

The treatment of intervertebral disc prolapse with a mixture of an epidural steroid and local anaesthetic is a very effective method of controlling symptoms of IVDP like low back ache and radiculopathy.

It is a non-invasive procedure and avoids risks of operative treatment with a good amount of patient satisfaction and symptomatic relief.

It decreases time and cost of treatment of IVDP for a longer duration of at least 12 weeks.

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