



EFFICACY OF EPIDURAL STEROID INJECTION IN LUMBAR RADICULOPATHY – A PROSPECTIVE STUDY

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ABSTRACT

Introduction: Low back pain and radicular pain is a disabling condition producing limitation of physical activity.

Epidural steroid injection (ESI) have been used in treating low back pain for past 50 years. The use of Epidural Steroid Injection has been increased in the past 10 – 15 years in the treatment of low back pain and radiculopathy.

Aim: Assessing effectiveness of ESI in immediately relieving lumbar radiculopathy & sustenance of pain relief.

Materials and Methods: This is a Prospective case control study conducted in 100 patients. A total of 100 patients (50 in epidural steroid group and 50 in conservative management group) were included after fulfilling the inclusion criteria. Data was collected at the time of admission, pre-procedure pain and disability evaluation using Visual Analogue Score, Oswestry Disability scores and SF-12 score at 2 weeks, 1 month, 3 months & 6 months.

Results: At 1 month and 3 months, Epidural steroid injection group showed improved outcomes than conservative group.

Discussion: Epidural steroid injection is found to be effective in acute symptoms of lumbar radiculopathy & is a better option than conservative treatment.

KEYWORDS : Epidural steroid injection, Low back ache, Radicular pain,

INTRODUCTION:

Radiculopathy pain is defined as pain from compression of a nerve root, due to disc herniation or irritation of nerve root. (1) Epidural Steroid injection is injection of corticosteroids with local anaesthetic injected into epidural space to relieve pain from spinal origin theoretically caused by inflammation.

Steroids act by inhibiting the synthesis or release of pro – inflammatory mediators thereby inhibiting inflammation (2).

Epidural steroid injection is one of the common non – surgical management of back and leg pain symptoms (3)

METHODOLOGY

This prospective study was conducted in patients presenting to PIMS hospital Orthopaedics OPD from October 2017 to October 2019. 100 patients were included in two groups of 50 each.

INCLUSION CRITERIA

- Age more than 18yrs
- Patients who are not relieved of their lumbar radiculopathy by conservative management over a minimum of 2 months with confirmed herniation on MRI
- Straight Leg raising test value between 40 to 70 degree
- Patients willing to participate and after proper informed consent

EXCLUSION CRITERIA

- Patients with local & systemic infection.
- Patients with h/o allergy to steroids & local anaesthetic agents.
- Patients with progressive motor deficits.
- Patients with vertebral compression fractures, cauda

equina syndrome and arachnoiditis.

- Patients with bleeding diathesis.
- Patients with multiple level disc prolapse.

Patients were divided into two groups 50 patients in each group

Group A- Lumbar Radiculopathy patients not relieved by rest & medications for a period of 2 months are given epidural steroid injection.

Group - B - Lumbar Radiculopathy patients not relieved by rest & medications for a period of 2 months and not willing for intervention and are willing to get treated conservatively [bed rest , Analgesic , muscle relaxants].

Before intervention, VAS score is used to assess patient's pain status for both groups. After intervention VAS, ODI, SF – 12 scores are evaluated during follow up for both groups 2 weeks, 1 month, 3 months & 6 months.

Statistical analysis was done using SPSS software version (21.0). Quantitative variables were represented using mean and standard deviation for parametric data; for non-parametric data, it was represented using median and interquartile range. Repeated measures ANOVA was used to find out overall differences in related means at different time points. p value <0.05 was considered as statistically significant.

RESULTS:

Epidural steroid injection is found to be effective in acute symptoms of lumbar radiculopathy & is a better option than conservative treatment.

Fig: Distribution of ODI among the study groups

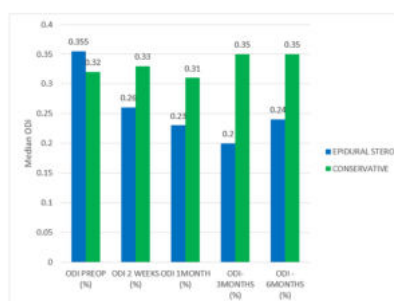


Fig: Distribution of SF12 among the study groups

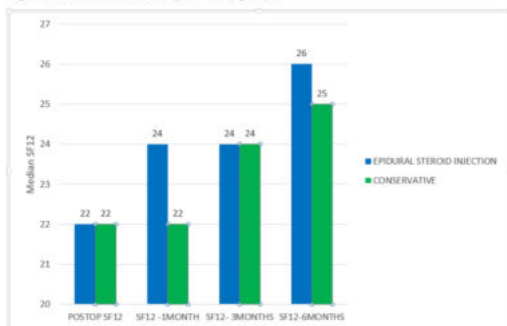


Fig: Distribution of VAS among the study groups

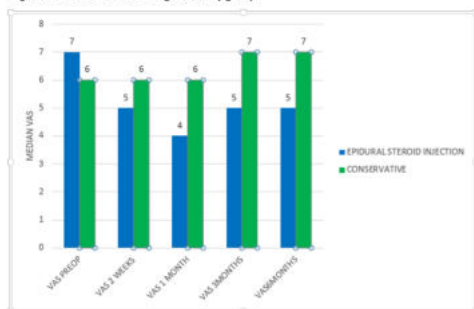


Fig: Repeated measures ANOVA for VAS in Group EPIDURAL STEROID INJECTION:

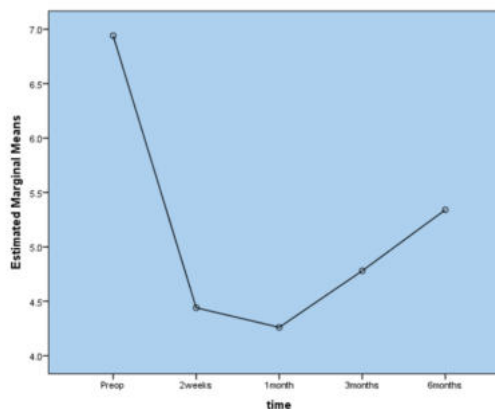


Fig: Repeated measures ANOVA for VAS in Group CONSERVATIVE:

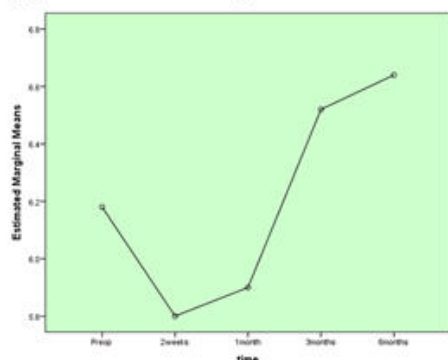


Fig: Repeated measures ANOVA for ODI in Group EPIDURAL STEROID INJECTION:

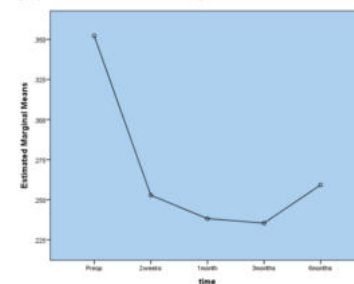


Fig: Repeated measures ANOVA for ODI in Group CONSERVATIVE:

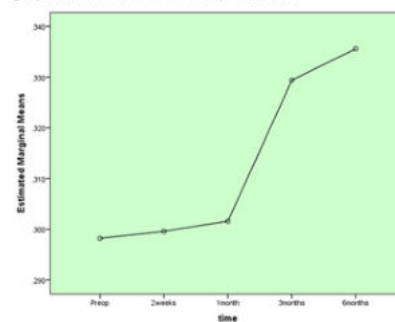


Fig: Repeated measures ANOVA for SF12 in Group EPIDURAL STEROID INJECTION:

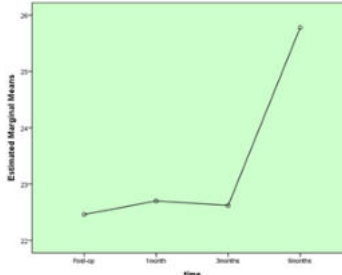
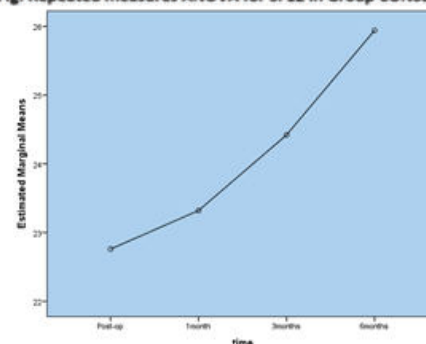


Fig: Repeated measures ANOVA for SF12 in Group CONSERVATIVE:



DISCUSSION:

- Laiq et al (4) observed 50 patients with lumbar radiculopathy, 25 patients in conservative and 25 patients in lumbar epidural steroid injection group. Less significant improvement was seen in conservative group during the initial period for 2 weeks and 1 month ($p < 0.05$) and non-significant in chronic stages of treatment in both groups ($p > 0.05$).
- In our study, VAS at 2 weeks had an average of 5 in ESI group and in conservative group, the average was 6. At one month, VAS had an average of 4 in ESI group and 6 in conservative group. Similar to Laiq et al, less significant improvement is seen during the initial period for 2 weeks and 1 month ($p < 0.01$).

Laiq et al finds Epidural steroid injection a better option compared to conservative treatment in acute symptoms of lumbar radiculopathy.

- Shakoor et al in a prospective study with 60 patients with

lumbar radiculopathy. 30 patients were treated in Group A with conservative management and epidural steroid injection and the Group B with 30 samples treated conservatively. Epidural Steroid Injection treatment group is significantly improved than conservative treatment group ($p < 0.05$).

- In our study, VAS and ODI is found to be statistically significant in all points of time and the results are similar to shakoor et al (5) whereas SF12 is found to show good outcomes in 1st & 3rd month in ESI group. At 3 months of SF12 both ESI & conservative group shows equal scores and it is statistically significant.
- Lee et al (6) analyzed 52,935 ESI procedures performed in 22,059 patients showed incidence of ESI-related events requiring hospitalization was 0.46% and incidence of procedure-related complications was 0.026%. The incidence of drug-related systemic effects was 0.11%. The incidence of major complication of ESI like spine infection, hematoma, and sepsis was 0.011 %.

DECLARATION OF PATIENT CONSENT :

The authors certify that they have obtained all appropriate patients consent forms. The patients understand that name and initial will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

FINANCIAL SUPPORT AND SPONSORSHIP: Nil

CONFLICTS OF INTEREST:

There are no conflict of interest

CONCLUSION:

Epidural steroid injection is found to be effective upto 1 month and 3 months of follow up.

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