



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1467697>Available online at: <http://www.iajps.com>

Research Article

**EPIDURAL CORTICOSTEROID INJECTION VERSUS
CONSERVATIVE MANAGEMENT: WHICH IS BETTER &
EFFECTIVE TREATMENT OF LOW BACK PAIN**¹Dr. Syed Murtaza Ali Zaidi, ²Dr. Sana Hajra, ³Dr. Saba Riaz¹Allama Iqbal Medical College Lahore²Women Medical Officer Basic Health Unit, Kirto Mureedke, Sheikhopura³WMO, Government Eye cum General Hospital Gojra**Abstract:**

Objectives: We aimed to document the effectiveness of ESI (Epidural Corticosteroid Injection) in sciatica and low back pain cases who failed in the course of traditional treatment.

Material & Methods: Our prospective, observational and descriptive analysis research held at Sir Ganga Ram Hospital, Lahore (February to November 2017). The research sample included seventy sciatica and low back pain patients of (20 – 70) years of age from both males and females. All the patients failed in the course of conservative management approach. An experienced and trained anaesthesia injected the epidural steroid injection to the patients. Patients also appeared in the assessment of ODI (Oswestry Disability Index) and all the patients having ODI rate above forty-five percent or a rate of pain more than five in the timespan of one week given an injection of epidural steroid injection once again with a maximum dose not more than two injections. All the patients also had a follow-up at an interval of one week, one month, three months and six months for the determination of ESI effectiveness.

Results: In the total of seventy patients male and female were respectively 31 and 39 with respective proportions of 44.29% and 55.71%. Females were dominant over males in terms of number. Patients were in the age bracket of (20 – 70) years with a mean age of (53.19 ± 8.64) years. ODI was at baseline and at six months (59.11 ± 6.34) & (31.25 ± 4.19) respectively with a significant P-value under 0.05. Pain score mean and SD values at baseline, one week, one month, three months and six months were respectively (7.77 ± 2.41), (4.29 ± 1.74), (4.11 ± 1.85), (4.03 ± 1.63) and (3.87 ± 1.09) with a significant P-value under 0.05.

Conclusion: Epidural steroid injection is an effective treatment in order to control sciatica and low back pain especially in the cases who failed conservative management of the disease without any involvement of side effects.

Keywords: Sciatica, LBP (Low Back Pain), VAS (Visual Analogue Scale) and Epidural Steroid Injection (ESI).

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Please cite this article in press Syed Murtaza Ali Zaidi et al., *Epidural Corticosteroid Injection versus Conservative Management: Which Is Better & Effective Treatment of Low Back Pain.*, Indo Am. J. P. Sci, 2018; 05(10).

INTRODUCTION:

There is an association of sciatica and low back pain with major health care issues of the world. It also increased hospital visits and restricts the mobility of the patients. Western studies report an incidence of eighty percent cases in their estimates [1, 2].

ESI is a situation that makes the patient disable and it may last for a week, months or sometimes even years. An estimated proportion of (15% – 20%) faces the incidence of back pain among adults every year. There are chances that all the adult population faces the effects of low back pain. Working population faces the effects of low back pain the most which are a permanent economic burden on the social circle [1]. There are many factors associated with the incidence of spinal pain such as physical, socio-economical, occupational, poor medical health, environmental and psychological factors. These factors contribute to the incidence of low back pain [3]. Few cases are controllable through psychological assessment [4]. Varying outcomes are associated with the available management options whether surgical or conservative. Among conservative approaches for the treatment of back pain bed rest, spinal manipulation, analgesics and traction are available. Surgical treatment becomes necessary in the failed cases of conservative approaches to treat back pain. There are cases who did not recover even after the surgical interventions and complete relieve is still at chance in such cases [1]. Satisfactory outcomes are possible through ESI intervention as reported by physicians and patients [5].

We can access the lumbar epidural space through inter-laminar, caudal routes or transforaminal [5]. Lumbar ESI, according to numerous authors administered through various routes [5 – 21]. Numerous studies also failed in order to separate these three management strategies [6, 7, 10 – 19]. ESI with physiotherapy provides long duration analgesia [22].

METHODOLOGY:

Our prospective, observational and descriptive analysis research held at Sir Ganga Ram Hospital, Lahore (February to November 2017). The research sample included seventy sciatica and low back pain patients of (20 – 70) years of age from both males and females. All the patients failed in the course of conservative management approach. An experienced and trained anaesthesia injected the epidural steroid

injection to the patients. Patients also appeared in the assessment of ODI (Oswestry Disability Index) and all the patients having ODI rate above forty-five percent or a rate of pain more than five in the timespan of one week given an injection of epidural steroid injection once again with a maximum dose not more than two injections. All the patients also had a follow-up at an interval of one week, one month, three months and six months for the determination of ESI effectiveness.

We did not include any cases having bleeding disorders, motor deficit, diabetes mellitus (DM) and previous lumbar disc surgery in this research. We documented VAS scale baseline pain for every patient. ODI is a gold standard for low back pain which utilizes a questionnaire to assess the required outcomes [23]. Reported ODI scores were such as minimal, moderate, severe, crippled and bedridden disability with respective proportions of (0% – 20%), (21% – 40%), (41% – 60%), (61% – 80%) and (81% – 100%) in the patients of low back pain [24].

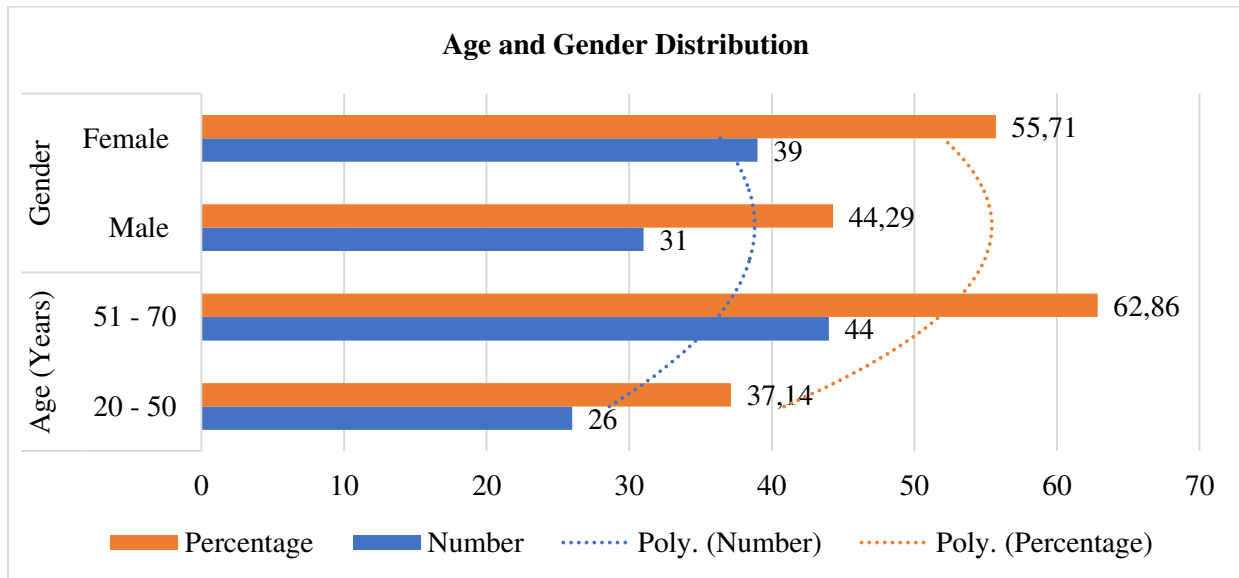
Our research included such patients who had ODI (above 20%) and pain score 3 as observed through VAS. Hospital staff conducted all the routine clinical evaluations which include the percentage of Hb, erythrocyte sedimentation rate, total & differential leukocyte count, platelet count, random BSR, clotting and bleeding time. Trained physicians injected the ESI with the help of epidural needle (gauge 18). We diluted ten millilitres of distilling water with Methylprednisolone (80 mg) and injected it in the epidural space. For every five minute time interval, we monitored the hemodynamic values till complete 30 minutes and positioned the participants on sciatic radiation side or supine position for 24 hours after injection administration to settle down the steroid. Staff also observed possible complications. At the end of twenty-four hours, we documented improvement in the patient's overall state and pain score. The researcher analyzed the data on SPSS software.

RESULTS:

In the total of seventy patients, male and female were respectively 31 and 39 with respective proportions of 44.29% and 55.71% (Table – I). Females were dominant over males in terms of number. Patients were in the age bracket of (20 – 70) years with a mean age of (53.19 ± 8.64) years (Table – I).

Table – I: Age and Gender Distribution

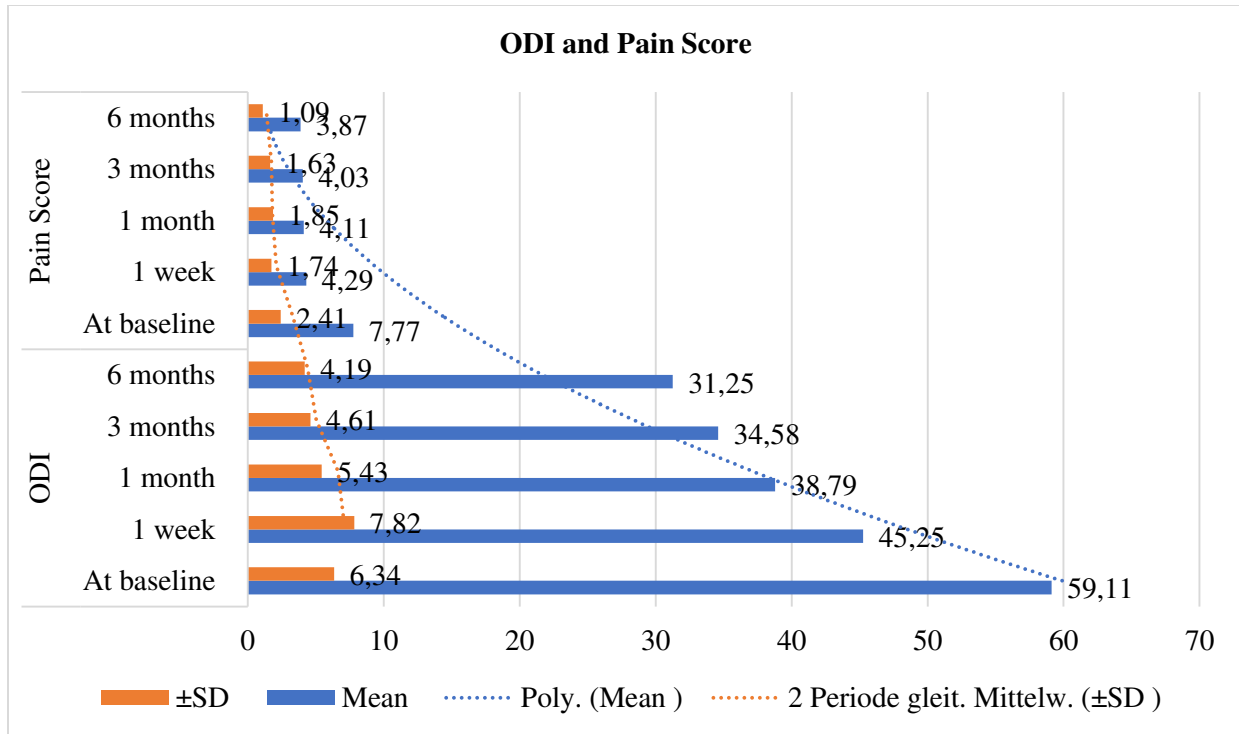
Age / Gender		Number	Percentage
Age (Years)	20 – 50	26	37.14
	51 – 70	44	62.86
Gender	Male	31	44.29
	Female	39	55.71



ODI was at baseline and at six months (59.11 ± 6.34) & (31.25 ± 4.19) respectively with a significant P-value under 0.05 (Table – II). Pain score mean and SD values at baseline, one week, one month, three months and six months were respectively (7.77 ± 2.41), (4.29 ± 1.74), (4.11 ± 1.85), (4.03 ± 1.63) and (3.87 ± 1.09) with a significant P-value under 0.05 (Table – II).

Table – II: Mean \pm SD: ODI and Pain Score

ODI / Pain Score		Mean	\pm SD
ODI	At baseline	59.11	6.34
	1 week	45.25	7.82
	1 month	38.79	5.43
	3 months	34.58	4.61
	6 months	31.25	4.19
Pain Score	At baseline	7.77	2.41
	1 week	4.29	1.74
	1 month	4.11	1.85
	3 months	4.03	1.63
	6 months	3.87	1.09



DISCUSSION:

There are differences in the case to case treatment of low back pain as it involves numerous associated factors. Rest is enough for the low back pain cases as they do not need any surgical or medical treatment. An author suggested two days rest to treat low back pain with moderate exercise [25, 26]. NSAIDs are not able to treat the root cause of the disease. In the light of side effects, long time use is not fruitful. Short-term corticosteroids and anti-depressants can possibly decrease the intensity of the pain. There are few other modalities in a fashion such as TENS (Transcutaneous Electrical Nerve Stimulation), traction and ultrasound with any scientific evidence to support [27]. A reported failure rate is thirty percent in the correctable pathological lesions surgically treated cases [28]. ESI is an effective and invasive method which is effective to treat low back pain which is in fashion since 1952 [29]. Chronic back pain cases also had effective outcomes [30].

According to Bogduk N, caudal and lumbar steroid injections use is helpful to treat low back pain; whereas, ESI is good for sciatica and low back pain [31]. Another author also assessed ESI effectiveness and found it beneficial remedial therapy in such cases [32]. Same results were available in the VAS and ODI analysis (49%) in order to reduce the pain factor [33]. Belivesus P and other researchers concluded methylprednisolone as an effective therapy to eradicate long-term incidence of LBP [30].

According to the outcomes of a local research, effective of ESI was more than of conservative modalities to control pain [34].

CONCLUSION:

Epidural steroid injection is an effective treatment in order to control sciatica and low back pain especially in the cases who failed conservative management (NSAIDs, oral steroids, traction, bed rest and antidepressants) of the disease without any involvement of side effects.

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