

Epidural Steroid along with midazolam for low back pain with sciatica.

Dr Vasudha jadhav¹ Dr Ranjeetsinha jadhav² Dr Satish mehta³

ABSTRACT:- Epidural steroid injection has equally good results in acute cases than chronic cases .Duration of relief varied from 1wk to 4months . Low back pain continues to be a leading cause of disability.It is the commonest complain of most of the patients presenting to the pain clinic and orthopaedic out patient department. The cost to society and the patient in the form of time lost at work ,compensation and treatment is staggering.

Key words:- Epidural injection, metylprednisolone, midazolam, xylocard.

Introduction:- It is estimated that about 80% population suffers from low backache at some time with annual prevalence of 18% and incidence of 15-20%(quebec Task Force on spinal Disorders)low back pain can be self limiting but 1% patient remain chronically disabled and stay off work for more than two years . The spinal nerves emerge from the spinal cord ; they travel laterally 1-2 cm before they exit the spine . It is at this exit (intervertebral foramen) that these nerves are most likely compressed or 'pinched' by either a herniated disc or bony spurs , narrowing of the exit secondary to the calcification and decreased spacing between the vertebrae . This pressure on the spinal nerves causes inflammation and pain . the pain could affect the back alone or can irradiate to the legs , which is known as sciatica.

various surgical treatments require high cost ,skill and all risk of major surgery . All kinds of treatment including bedrest , physiotherapy , manipulations , traction , has conservative treatments for these conditions include analgesics , antiinflammatory drugs , physical therapy and epidural steroid injections other therapies are heat , acupuncture ,massage and stress control.

Epidural steroid injections are most effective in the presence of nerve root compression . Epidural steroid injection are safe and conservative. Method of treatment for chronic low back pain .

They are quick , simple and economic. All hazards of spinal surgeries are avoided.

The steroids are potent antiinflammatory agents and are injected near affected nerve roots .

These injections are effective when given in the first week of onset of pain .

Usually 2-3 injections are required but patient can have relief with single injection also.

This study was undertaken to evaluate whether there is any effect on addition of midazolam to steroids used MATERIAL AND METHODS—Informed consent was obtained from all 100 patients (ASA grade I and II who attended orthopedic OPD and then were referred to pain clinic . Patients with known cardiopulmonary /endocrine disorders were excluded from the study.

Pain was assessed by VAS visual analogue scale , modified according to the patients individual perception, in percentile . Straight leg raising test (SLR) ,lasegue's test were done prior to the epidural injections , after each such injections and during the follow ups .These epidural injections were given at monthly intervals and the patients were given at monthly intervals and the patients were followed in the 2nd , 6th and 16th weeks.

The patients were divided into 2 groups on the basis of whether they received methylprednisolone along with injection Tramadol by epidural route.

Patients in group I received 2ml(80mg)of methyl prednisolone and 25mgm of tramadol with 2% 2ml xylocard diluted in 15ml normal saline . Patients in group II received 2ml of methyl prednisolone and 2ml xylocard diluted in 10ml of normal saline . Procedure was undertaken in orthopedic OT under all

aseptic precautions , epidural injection was given using 18 g needle in the sitting position . Vitals were monitored for 30 minutes in supine position .

Monitoring included pulse rate (PR) noninvasive blood pressure(NIBP) ,oxygen saturation (SPo2) and cardiac monitoring of lead II when required .

Results were categorized into four groups as done by Berman et al (1984)¹ in their study – Excellent i.e complete relief of pain and other symptoms no need for further treatment . Good i.e complete or near complete relief of pain with minimal work restriction: Fair i.e pain and other symptoms of moderately decreased intensity with moderate work restriction and poor i.e no relief , unable to work and requires further treatment .

Statistical analysis – Chi square test was used to compere data with discrete variables while C test was used to compere data continuous variables . A p value of ,0.05 was taken as statistically significant . All data were presented in percentage or mean =/- S.D. (Standered deviation) . The sample size required for having power of 80% for fulfilling primary goal (i.e percentage of effectiveness of epidural steroids for low back pain with sciatica) of study was 30, based on previous studies . we had taken 51 patients in each group to obtain power of >90%

RESULTS—Total 100 patients with age 20-75 yrs of either sex were included in study large number of patients were in 30-50 yrs of age range . Mean age of patient was 45.3+/- 13.1, there was no significant difference in the mean age and sex of the patients between the two groups (p.0.05). heavy workers labourers were 29.1% while others were sedentary workers

Duration	no . of patients	Percentage
Acute	22	21.4
Chronic	78	78.6
Total	100	100

for pain relief in low backache. Total 100	100
---	-----

Table 5: Results as per pain relief

Results	V.A.S score	Improvement of pain In (%)	Number of patients
Excellent	0-2.5	≥75%	20
Good	2.5-5	50-75	63
Fair	5-7.5	25-50	11
Poor	7.5-10	<25	09
Total			
Mean +/-S.D.=60.3%+/-20.1			

Table 6: Results as per duration of symptoms

Result	Acute	Chronic
Excellent	9	11
Good	11	50
Fair	01	10
Poor	01	07
Total	22	81

Table 7: Complications

No . Complications	Overall
1.Blood vessel puncture	6
2.C.S.F	2
3.Nausea	2
4.Fall in B.P.	
5. Hiccups	2
6.Weakness of lower limbs	4
7. Increase in pain of sciatica	8
8. Headache	3
9.Local site pain	4
10. Infection	-
11. Vasovagal attack	2
12.Failure	5
13. Breakage of needles	-

Bilateral sciatica constituted 32% patients 28.16% of patients presented with neurological deficit in the form of sensory motor involvement .

Patients were grouped into two depending upon the duration symptoms (acute/chronic). In acute cases duration of symptoms was less than three months. In chronic patients, duration of symptoms was more than 3 months. Acute group constituted 21.4% and chronic cases 78.6%.

There was a Significant difference in the degree of improvement of sciatica in both groups and in both sides regarding straight leg raising test as revealed by a p value.

The pain relief lasted more in group 1 with tramadol. out of 100 patients 60 had good improvement of pain (50-75%) 20 had excellent improvement and 11 had fair improvement. Mean improvement was 60.3% and the improvement ranged from 40%-80%.

There was significant differences in results as per duration of symptoms (acute/chronic) we had few insignificant complications occurred in any patient in our study.

Discussion:-- The use of steroid for low back pain with sciatica was started by Cappio M (1951)² The Suggested Mechanism of action of steroid is --

1. Breaking up of adhesions around the nerves (the adhesions cause oedema by obstruction of free flow of fluid in nerves and cause direct damage to the nerves by compression).
2. Probably accelerates healing of the irritated and inflammatory state of nerve roots and reduces oedema.
3. Inhibits phospholipase A2 and cycl-oxygenase enzyme(Lee ,et al 1998)³

Depomedrol (methyl prednisolone) is the safest steroidal agent when used epidurally and other agents which can be used are betamethasone acetate, dexamethasone and triacinelone.

LBP can be classified into 5 principle categories but ESI are indicated in spondylogenic and neurogenic back pain only physiotherapy, drugs may or may not work for every patient. Surgical treatment will need skilled surgeon and it also increases cost and risks. surgery may not be needed every time so ESI has been used many years.

We aimed to study role of route in the final result . we had 46 females and 54 males, a total of 100 patients in our series -- according to Gupta et al (1996)⁴ ,Commonest age group was between 30-40 years , while in our series , the commonest age group was 40-50 years , followed by 30-40 and 50-60 years . 50 patients had sudden onset of symptoms where as 50 patients had gradual onset .cause of sudden onset was most often lifting of heavy weight /bending. According to papagelopoulos et al⁵ , the most common cause for back pain with sciatica was disc herniation (50%) in our series also the clinical diagnosis in most of the patients was disc herniation . As far as drug is concerned in our series 78.43%of patients in group 1 had excellent to good results while it was 82.69% in group II had fair results in 21.57%in group I and 17.3% in group II respectively. In the group I with Tramadol the analgesic effect was prolonged . According to Wallace et al⁶ and Sethi et al⁷ lumber route is effective because it deposited the drug close to the site of lesion . so that route was chosen. ESI are effective in both acute and chronic cases of LBP .In our study 30 acute cases had excellent good results while 77.8% of chronic cases had good to excellent results. ESI are most effective during the acute phase of pain and inflammation according to V,Sing et al⁸ Staehler⁹ reported that an ESI can be very beneficial for a patient during an acute episode of back pain . According to report published by Manchikanti et al¹⁰ ESI with or without local anaesthetic can provide pain relief in patients of chronic back pain or sciatica .After successful injection the effect may last from few months to several years.

References :

1. Berman AT , Garbarino JL , Fisher SM . The effects of epidural injection of local anaesthetics & corticosteroids on patients with lumbosacral pain . Clin Orthop 1984 ; 188: 144 -51.

2. Cappio M . Sacral epidural administration administration of hydrocortisone in therapy of lumbago sciatica. Rheumatology 1951;9:60.
3. Lee HM , weenstein JW , Meller ST . The role of steroids and their effects on phospholipase A2 . An animal model of radiculopathy .spine 1998;23:1191-96.
4. Gupta AK . Role of epidural medication in the treatment of resistant low back pain . J Indian Med Assoc 1996 ;6: 224-6.
5. Papagelopoulos PJ ,Pasalis MP , Petrou HG . Treatment of lumbosacral radicular pain with epidural steroid injections . Orthopedics 2001;24:145-9.
6. Wallace G , Solove GJ. Epidural steroid therapy for low back pain. Postgrad Med 1985 ;78:213-5.
7. Sethi N , sood J ,Kumar VP . Management of chronic low backache Due to prolapsed intervertebral disk by lumber vs caudal epidural medication Ind Pain 2003;17:27-31.
8. Singh V, Manchikanti L, Role of caudal epidural steroid in the management of low back pain . Pain Phys 2002;5:133-48.
9. Staehlr R . lumber epidural steroid injection for low back and sciatica .July 17,2007. www.spine-health.com.
10. Manchikanti L, Cash KA ,Mc Manus CD , et al. Preliminary results of a randomized , equivalence trial of fluoroscopic caudal epidural injection in managing chronic low back pain .Pain Physician 2008;11:713-6.