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Efficacy of Epidural Steriod for Chronic Low Back Ache

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Abstract: *Introduction: Low back ache constitutes majority of the cases of orthopaedics out patient department. Low back ache causes more global disability than any other condition. Historically Epidural steroid injection is widely being used as nonspecific treatment for LBA with radiculopathy. The efficacy of epidural steroid is still controversial. Studies supporting the use and opposing the use are available. The rationale behind using epidural steroid is it anti-inflammatory action of steroid. Our study aims at observing the efficacy of epidural steroid injection for chronic lowback ache with radiculopathy and observing related complications during the procedure*

Methodology It is a prospective study. Patients who attended our out patient department between October 2017 and October 2018 who presented with chronic low back ache with radiculopathy were identified. All patients who met the inclusion criteria were included in the study. Patients were followed up for period of 6 months following the epidural steroid injection .Pre and post procedure pain relief was measured using visual analogue scale. The results were analysed

Results92% of the cases their VAS score came down to 0-1.patients had significant relief from low back ache as well as radicular pain. 4 patients (8% of case) all are female patients had no significant relief with epidural steroid injection . All the 4 patients needed surgery for symptom relief.

Conclusion Epidural steroid injection for low back ache with radiculopathy gave satisfactory results in 92% of cases at 6 months followup. The results are favourable for both low back ache and radiculopathy

Keywords: *Epidural steroid injection . Radiculopathy . lowback ache*

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I. Introduction

Low back pain is the leading cause of activity limitation and work absence throughout much of the world, and places a large economic burden on individuals, families, communities, industry and governments.[1] Epidural steroid injection is being widely used and its use is being increasing inspite of it being empirical and based on observation of response clinically. Most of the recent studies showed that the results are controversial and has no long term efficacy. Neurological complications are also being reported related to epidural steroid injection due to its neurotoxic effect. Both mechanical and biochemical factors are involved in the pathophysiology of nerve root compression[2]. Chronic compression produces severe demyelination and fibrosis of the nerve root. Similar lesions can result from exposure to irritant substances released from the nucleus pulposus. Pain sensations arise from the peripheral nervous system as a result of structural radicular damage and sensitization. The aim of our study is to assess the efficacy of epidural steroid injection in lowback ache with radiculopathy

II. Materials & Methods

50 patients who attended our opd between October 2017 and October 2018 who had low back ache with radiculopathy were included in the study. All the patients were evaluated clinically and radiologically. Lumbar disc prolapse was confirmed by MRI All the patients matching the inclusion criteria were included in the study. Inclusion criteria being: (1) All patients with low back ache and findings characteristic of a herniated lumbar disc that did not obtained pain relief with bed rest and administration of analgesic and anti-inflammatory drug therapy for at least six weeks(2) presence of a lumbar disc prolapsed(single level) confirmed by magnetic resonance imaging (3) All patients willing for follow-up for at least six months (4)No previous history of spine surgeries . Exclusion criteria (1) patients who have local infection, (2)patients with sequestrated disc,(3)patients with motor deficits,(4)patients with instability of spine,(5) patients with coagulation disorders, (6) patients not willing for the procedure. All The patients were admitted to the hospital thorough clinical examination, xray and

routine surgical profile was done. Other co morbidities were ruled out.MRI was done to confirm the lumbar disc prolapsed. Patient was posted on elective basis and received epidural steroid injection. All the patients were preoperatively evaluated about the pain on visual analogue scale. The epidural injection was done by using loss of resistance technique without fluoroscopic guidance. Each patient received 80 mg(2ml) of methylprednisolone in 4 mL xylocaine2%. The procedure was performed by single consultant. Interlaminar approach was used. Patients were followed up up to 6 months after epidural steroid injection. Subjective pain level or intensity of pain was assessed on horizontal 10-cm visual analogue scale (VAS) rated by the patients, ranging from 0 (no pain) to 10 (most pain possible). The patients were then classified into five groups: no pain (0); mild pain; moderate pain (3-5); severe pain (6-9) and very severe pain (10).The results were analysed.

III. Results

The age group of the patients included in the study range between 25-55 years(mean34.7 years). Most of the patients were between 30 and 40 years age group. Of the 50 patients 37 (74%)were female and rest 13 (26%)were male. All of the 50 patients received epidural steroid injection by interlaminar route. The patients preoperative pain severity was assessed by visual analogue scale.62% of patients had VAS score between 6-10 (severe to very seve re pain) before the procedure. Rest of 38% of patients had VAS score between 3-5 (moderate pain). All the patients were assessed 1 week after the procedure for the VAS score.92% of the cases their VAS score came down to 0-1.patients had significant relief from low back ache as well as radicular pain. 4 patients (8% of case) all are female patients had no significant relief with epidural steroid injection. All the 4 patients needed surgery for symptom relief.

IV. Discussion

Low back pain is a leading cause of disability. It occurs in similar proportions in all cultures and interferes with quality of life and work performance. It is the most common reason for medical consultations. Back pain is both a major cause of temporary disability and a challenge to medical and surgical treatment decisions.[10]All kind of conservative and surgical treatments have been used with varying success. Non-surgical treatment of chronic low back pain covers a wide range of alternatives including conventional physiotherapy, manipulations and other manual methods of traction[11.]. Epidural steroid injection is being widely used and its use is being increasing inspite of it being empirical and based on observation of response clinically. Most of the recent studies showed that the results are controversial and has no long term efficacy. The rationale behind using steroid injection is Steroids may reduce pain by having an anti-inflammatory effect, decreasing nerve root edema, and increasing blood flow to the nerve roots and neural elements to decrease ischemia.[4] where as addition of Local anesthetics reduce pain by blocking conduction in nociceptive nerve fibers [3]. Studies have shown favourable short-term results with epidural steroid injection for radicular back pain.[5-7] Outcomes include decreased back or leg pain, increased mobility, and an increased ability to perform continuous activities.[8-9]If pain relief is achieved, it lasts from 1 week to several months. The degree of pain relief varies from partial to complete relief. In clinical practice, Epidural Steroid Injections are essentially used in the treatment of radiculopathies caused by disc herniation or by lumbar canal stenosis. In the case of disc herniation, cells from the degenerated disc fragments produce numerous inflammatory mediators including TNF and various other inflammatory cytokines[12]. High levels of phospholipase A2, precursor of prostaglandins E2, have also been found in herniated discs [13]. All these neurotoxic substances may penetrate within the intraneural capillaries causing axonal ischemia, which in turn is responsible for nerve root pain. Moreover, the abundant inflammatory cells present in the granulation tissue surrounding the disc fragment are a strong marker of inflammation [14,15]. . In the case of lumbar canal stenosis, inflammation of the nerve root is induced by chronic, slowlyProgressive mechanical compression. Thus, an inflammatory process is observed in the mainCauses of common sciatica. In our study we have found that epidural steroid has significant relief of low back ache as well as radicular pain.The most common adverse reaction experienced afterepidural injections mentioned in literature are vasovagal reaction leading to hypotension,nausea, and vomiting. Other complications include intravascular injection, headachedural puncture, infection, or hematoma. Some patients experience increased back pain after the injection until the medications take effect**.** We have not encountered any complications during the procedure. Out of the 50 patients only 4 patients had no significant relief of symptoms. They came back for surgery

V. Conclusion

Epidural steroid injection for low back ache with radiculopathy gave satisfactory results in 92% of cases at 6 months follow-up. The results are favourable for both low back ache and radiculopathy. The study has limitations being short term study, single dose of epidural steroid injection and long term efficacy could not be analysed and the results being analysed basing on subjective response.

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