Summary and Conclusion

Low back pain is a highly common problem and causes much morbidity and socioeconomic loss in the community. Although most low back pain is self –limiting , it leads to functional limitation when it is persistent and associated with radicular pain .This is among the most common reason for use of medical services ***(Umit et al.,2007).***

The treatment of low back pain must follow a logical consequence of diagnosis and management. The vast majority of patients with low back pain suffer from some mechanical derangement of the disc, ligaments, facet or nerve root complex. Majority of these discogenic problems resolve with conservative treatment ***(Sethi et al., 2009).***

The recent researches that have been conducted within the last decade show that a definite trend towards non-surgical management of lumbosacral disc herniations with radicular symptoms has occurred . Non-surgical treatment of lumbar radicular pain includes non-steroid anti-inflammatory drugs (NSAIDs), analgesics, oral or parenteral steroids, therapeutic exercises and the epidural injections. The treatment options are considerable and yet the outcomes associated with many treatments are either questionable or not well investigated ***(Umit et al., 2007).***

Epidural steroid injections are considered when the conservative measure with rest and analgesics fail. These are low risk alternatives to

surgery. They are effective in patients with symptoms of up to three years. They have the advantage of simplicity, cost effectiveness, minimal invasion and early relief of symptoms. It is also a method of crisis intervention and prognosticator, thereby meaning that they are more effective in acute and severe form of radiculopathy. They also reduce the need for narcotics. They can avoid operative intervention for a period of up to five years. Epidural steroids can be given either through lumbar or caudal route ***(Shahzad et al.,2008).***

The aim of this work to compare effectivness of both caudal, lumbar epidural steroide ,analgesic injection with oral non-steroidal anti-inflammatory drugs plus other conservative measures on relieving pain in patients with lumbar disc prolapsed presented by low back pain associated with sciatica.

This study was carried on 45 patients they were disc herniation presented by low back pain and sciatica due to disc prolapsed at level of (L3-L4, L4-L5 or L5-S1), they were collected from out-patient clinic of Banha University Hospital.

All patients subjected to the following:-

I-Full history taken, general and local examination.

II- Routine laboratory investigations.

III- Spinal radiological evaluation.

Patients were classified into 2 groups**:** Group(I) ,which included 15 patients were treated by NSAIDs + muscle relaxant, Lumbar support, Superfecial heat and lumbopelvic mobilization + lumbar stabilization exercise, and group(II) ,which included 30 patients were treated by

epidural steroid injection. This group was sub classified into two groups, group II (L) Include 15 patients had magnetic resonance imaging proven (L3-L4 or L4-L5) intervertebral disc herniation. Lumbar epidural steroid injection was applied to this group and group II (C) Include 15 patients had magnetic resonance imaging proven (L4-L5 or L5-S1) intervertebral disc herniation .Caudal epidural injection was applied to this group. All patients were assessed at 1^{st},3^{rd},week,1^{st},3^{rd} and 6^{th} month with 10 cm viscual analogue scale, Straight leg raising test, Oswestry score low back pain disability questionnaire.

Results of this study were as the following:-

In group (I) there was decrease in pain, proved by decrease in mean VAS value(from 7.20 to 5.67), increase in Straight leg raising test angle(from 59.67 to 68.33). Oswestry Disability scores was also improved(from 56.13 to 49.33), Decrease in muscle spasm after treatment(from 46.7% to26.7% of patients) , And improvement of hyposethia (from 4 to one patient).

Group (II)showed significant difference ($p<0.05$) in VAS, straight leg raising test, Oswestry low back disability questionnaire score when compared to group(I).In lumbar injection group (group II L) there was decrease in pain , proved by excellent decrease in mean VAS value(from 8.07 to 2.80), Straight leg raising test angle increased(from56.00 to 76.67). Oswestry Disability scores was also greatly improved(from 61.00 to 24.67). Decrease in muscle spasm after injection (from 53.3% to 6.7%) , And improvement of hyposethia (from 26.7% to 6.7%).

In caudal injection group there was decrease in pain , proved by excellent decrease in mean VAS value(from 7.40 to 3.47), Straight leg

raising test angle increased(from 58.33 to 73.00), Oswestry Disability scores was also greatly improved(from 59.00 to 36.00). Decrease in muscle spasm after injection (from 46.7% to 13.3% of patients) , And improvement of hyposethia (from 26.7% to 0) .

There was no significant difference ($p > 0.05$) between lumbar and caudal groups in VAS except at 1st month. There were no statistically difference($p > 0.05$) in straight leg raising test between both groups except at 1st week. There were no statistically difference ($p > 0.05$) between both groups in Oswestry low back disability questionnaire except at 1st and 3rd week. But both groups showing significant difference when compared by NSAID group.

All groups showed improvement, Besides lumbar and caudal injection groups were statistically better than NSAIDs+ physiotherapy group. there is significant difference ($p < 0.05$) between 3 groups in vas , Oswestry Disability scores and SLR at 1st,3rd week 1st month but not at 3rd,6th month (p value<0.05).lumbar injection group was faster in improvement and statistically better than caudal group In short term relief, but on long term relief, They approximated each other. caudal group gave better relief for hyposethia than lumbar group.

In conclusion

Epidural injection could be a preferable choice in managing low back pain and radicular pain due to disc herniation if applied by experienced specialist. It is effective mode of treatment. Not only effective clinically, but also cost effective. It can offset the need for surgery in those patients. Caudal epidural rout is safe and simple, so can be done by experienced rheumatologist.

Recommendations

From the results obtained from this study we can recommend that:-

- Using fluoroscope guidance for accurate placement of needle.
- Caudal epidural rout is safe and simple, so can be done by experienced rheumatologist but lumbar rout need to be done by experienced anaesthesiologist to avoid its great risk and potentially serious complications.
- Larger group of patients.
- Longer assessment period for example (5 years) to assess patients need for further injections and will the injection offset the need for surgery during this period or patients will need surgical interventions.
- Possibility of using different doses and preparations of steroids.