

Comparative Study for Assessment of Analgesia in Low Back Patients between Nefopam Hcl and Etodolac: A Prospective Observational Study.

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ABSTRACT: This research paper is about to assess the efficacy between the Nefopam Hydrochloride and Etodolac in Lumbar disc prolapse patients. Nefopam is a centrally acting by non-opioid analgesic drug of benzoxazocine chemical class. Etodolac is a Non-Steroidal anti inflammatory drug. In this study two hundred patients of above 20years of age were participated. It is a Prospective observational study. In this study pregnancy patients and failed back syndrome patients are excluded and the patients with low back pain are included. One group of 100 patients are given with Nefopam HCL and other group of 100 patients are given with Etodolac. Pain assessment using a visual analogue scale. Statistical analytic data were analysed by mean and standard deviation. Nefopam shows high efficacy when compared to etodolac.

KEYWORDS:Patient documentation form, Visual analogue scale

I. INTRODUCTION

Low back pain is defined as a pain or discomfort located below the margin of the 12th rib and above the inferior gluteal fold, with or without leg pain¹.

The low back that can be related to symptoms in this region include the bony lumbar spine, disc between the vertebrae, ligaments around the spine and discs, spinal cord and nerves, muscles of the low back ,internal organs of the pelvis and abdomen, and the skin covering the lumbar area. The bony lumbar spine is designed so that vertebrae stacked” together can provide a movable support structure while also protecting the spinal cord from injury. The spinal cord is composed of nervous tissue that extends down the spinal column

from the brain. Each vertebra has a spinous process, a bony prominence behind the spinal cord, which shields the cord’s nervous tissue from impact trauma.

Vertebrae also have a strong bony body (vertebral body) in front of the spinal cord to provide a platform suitable for weight bearing of all tissues above the buttocks. The lumbar vertebrae stack immediately atop the sacrum bone that is situated in between the buttocks. On each side, the sacrum meets the iliac bone of the pelvis to form the sacroiliac joints of the buttocks.

The discs are pads that serve as “cushions” between the individual vertebral bodies. They help to minimize the impact of stress forces on the spinal column. Each disc is designed like a jelly donut with a central, softer component (nucleus pulposus) and a surrounding, firm outer ring (annulus fibrosus). The central portion of the disc is capable of rupturing (herniating as in a herniated disc) through the outer ring, causing irritation of adjacent nervous tissue and sciatica as described below.

Ligaments are strong fibrous soft tissues that firmly attach bones to bones. Ligaments attach each of the vertebrae to each other and surround each of the disc.

The nerves that provide sensation and stimulate the muscles of the low back as well as the lower extremities (the thighs, legs, feet and toes) all exit the lumbar spinal column through bony portals, each of which is called a “foramen”.

[2]Acute low back pain is defined as 6 weeks or less of pain between the costal angles and

gluteal folds that may radiate down one or both legs. First episode usually occurs between 20-40 years of age.

Pain can be moderate to severely debilitating. Sub-acute low back pain is defined as pain that lasts 1-12 weeks. Chronic low back is a chronic pain syndrome in the lower back region for at least 3 months. About 20 percent of people affected by acute low back pain develop chronic low back pain with persistent symptom at one year.

When low back pain has determined to be of skeletal origin based on the history, proceed to inspection and palpitation of the lower back. The diagnostic methods are shown. First, inspect for curvature of the spinal column anteriorly, posteriorly, and to the right or left. No curvature to the right or left is seen in normal person, but when the spinal column is curved laterally and tilted in just one direction, interpret it is representing scoliosis in an effort to avoid pain, and consider lumbar intervertebral disc hernia or intervertebral disc.

Back pain that does not respond well to OTC painkillers may require a prescription NSAID. Codeine or hydrocodone, which are narcotics, may be prescribed for short periods. It requires close monitoring. In some cases, muscle relaxants may be used.

Applying heat, ice, ultrasound and electrical stimulation as well as some muscle-release techniques to the back muscles and soft tissues may help alleviate pain.

As the pain improves, the physical therapist may introduce some flexibility and strength exercises for the back and abdominal muscles. Techniques for improving posture may also help.

The patient will be encouraged to practice the techniques regularly, even after the pain has gone, to prevent back pain recurrence.

Injected into the epidural space, around the spinal cord. Cortisone is an anti-inflammatory drug. It helps reduce inflammation around the nerve roots. Injections may also be used to numb areas thought to be causing the pain.

OBJECTIVES:

The key Objective of the study include

- To Assess the efficacy of two drugs between Nefopam Hcl and Etodolac.
- To assess the intensity of pain relief in lumbar disc prolapse patients by using visual analogue scale.

METHODOLOGY:

Type of study: Prospective observational study.
Place of study: Secondary Care Hospital, Yemmiganur.
Study period: July 2019 to December 2019.
Study Population: 200.

METHOD:

After obtaining the approval from institutional committee, data of patients matching the inclusion criteria were recorded after getting informed consent. Data required for conducting the study (demographic details, chief complaints, lab data, patient documentation form, patient counselling form and ongoing treatment) Based on the treatment patients were divided into two groups (One group is receiving Nefopam HCL and other group is receiving Etodolac). After received treatment the efficacy of drugs is calculated by (VISUAL ANALOGUE SCALE) before and after treatment.

Inclusion Criteria: The patients visiting the Hospital with low back pain patients are included in the study.

- All the patients of either sex, aged above 20 years would be included.
- Patients who are willing to participate only included.

Exclusion Criteria: Pregnancy patients and failed back syndrome are excluded in the study.

Statistical Analysis:

Data were analysed by mean and standard deviation was performed for comparison of efficacy between two drugs.

II. RESULTS AND DISCUSSION:

The study was carried out for a period of six months in Secondary care orthopaedic hospital. A total number of 100 patients for etodolac and total number of 100 patients for Nefopam hydrochloride were taken in the study. Out of these patients, males are 42 and females are 58. In etodolac study and in Nefopam hydrochloride males are 42 and females are 58.

Table 1: Representing percentage of males and females suffering from lumbar disc prolapse.

Percentage of males	Percentage of females
42%	58%

Table 2: Representing different age groups of no. of patients of lumbar disc prolapse.

Age groups (in years)	Number of patients
20-30	31
30-40	16
40-60	27
50-60	33

Table 3: Representing percentage of pain relief of etodolac drug therapy in lumbar disc prolapsed patients.

Pain relief (in %)	No of Patients
0-20	15
20-40	10
40-60	31
60-80	32

Table 4: Measuring pain intensity in no. of patients of Etodolac drug therapy in low back pain patients.

Pain intensity	Percentage
No Pain	22
Mild pain	27
Moderate Pain	34
Severe Pain	15
Worst Pain	2

Table 5: Representing percentage of males and females suffering from lumbar disc prolapse patients

Percentage of males	Percentage of females
42	58

Table 6: Representing different age group of no.of patients of lumbar disc prolapse

Age group	Number of patients
20-30	3
30-40	48
40-60	38
60-80	11

Table 7: Representing percentage of pain relief of nefopam hydrochloride drug therapy in lumbar disc prolapse patients.

Pain relief (in %)	Number of patients
0-20	23
20-40	16
40-60	37
60-80	16
80-100	8

Table 8: Measuring pain intensity in no.of patients of nefopam hydrochloride drug therapy in lumbar disc prolapse patients

Pain intensity	percentage
No pain	10
Mild Pain	28
Moderate pain	34
Severe pain	15
Worst pain	13

Table 9: Representing efficacy between etodolac and Nefopam hydrochloride

Etodolac	Nefopam hydrochloride
43%	52%

Table 10: Representing the mean and standard deviation between nefopam hydrochloride and etodolac on visual analogue scale.

VISUAL ANOLOGUE SCALE	
Nefopam hydrochloride	Etodolac
Mean±S.D	Mean±S.D
52±0.27	43±0.29

III. DISCUSSION:

- The study was carried out for a period of six months in Secondary care Hospital. A total number of 100 patients for Etodolac. Out of these males are 46 and females are 54 and total number of 100 patients for Nefopam hydrochloride. Out of these males are 42 and females are 58.
- Out of these patients, In Etodolac drug therapy, males are 46% and females are 54%.
- Females are more affected than males
- In this study different age groups of patients as follows 31 patients in 20-30 years age group. In this age back pain is common, 16 patients in

30-40 years age group, 27 patients in 40-60 years age group, 33 patients in 60-80 years age group.

- Percentage of pain relief of etodolac drug therapy in low back pain patients as follows, 13 patients in 10-20%, 10 patients in 20-40% of pain, 31 patients in 40-60% of pain, 32 patients in 60-80%, 13 patients in 80-100 % of pain.
- Pain intensity in no of patients after etodolac drug therapy as follows 22 patients has no pain, 27 patients as mild pain, 34 patients has moderate pain, 15 patients has severe pain and 2 patients has worst pain.

- In the study of Nefopam hydrochloride, males are 42% and females are 58%.
- In this study different age groups of patients as follows 21 patients in 20-30 years of age, 31 patients in 30-40 years of age, 37 patients in 40-60 years of age, 11 patients in 60-80 years of age.
- Percentage of pain relief of Nefopam hydrochloride drug therapy as follows, 23 patients in 10-20%, 16 patients in 20-40%, 38 patients in 40-60%, 16 patients in 60-80%, 8 patients in 80-100%.
- Assessing pain intensity in no. of patients after nefopam hydrochloride drug therapy are as follows 10patients has no pain, 28patients has mild pain, 34patients moderate pain, 15 patients has severe pain, 13 patients are worst pain
- In our study both nefopam and etodolac showed a mean score and standard deviation of Visual Analogue Scale to the extent were 52 ± 0.27 , 43 ± 0.29 respectively. This indicates that nefopam is more efficacy than etodolac.

IV. CONCLUSION:

In current study demonstrated that the analgesic efficacies of etodolac and nefopam in low back pain. For comparision between etodolac and nefopam, both show efficacy but in early stages (mild, moderate) of low back pain etodolac decreases pain, but it doesn't work in severe, worst back pain, in severe patients are considered for surgery. Nefopam shows better action in mild, moderate, severe and worst pain. Nefopam shows high efficacy when compared to Etodolac.