



## COMPARATIVE ANALYSIS OF TREATMENT FOR LOW BACK PAIN AFTER DELIVERY IN PATIENTS WITH EPIDURAL ANALGESIA AND THOSE WITHOUT EPIDURAL ANALGESIA.

### Orthopaedics

**Dr. Vijay Vasant Nemade**

D. N. B. (Orthopaedics) Associate professor, Department of Orthopaedics Smt. Kashibai Navale Medical College and General Hospital, Narhe, Off Sinhagad Road, Pune, 411041. (M. S.) India.

**Dr. Pramod Vasant Lokhande\***

M. S. (Orthopaedics) Professor and H.O.D. Department of Orthopaedics. Smt. Kashibai Navale Medical College and General Hospital, Off Sinhagad Road, Narhe, Pune, 411041. (M. S.) India. \*Corresponding Author

**Dr. Dattatray Manohar Bhakare**

Post Graduate student M.S. Orthopaedics. Department of Orthopaedics Smt. Kashibai Navale Medical College and General Hospital, Narhe, Off Sinhagad Road, Pune, 411041. (M. S.) India.

### ABSTRACT

**Background:** Epidural Analgesia is considered as one of the cause of low back pain after delivery. Literature does not reveal epidural analgesia is the cause for low back pain after delivery. The incidence of low back pain after delivery in female patients not receiving epidural analgesia is same as that in patients who receive Epidural Analgesia. Aim of this study is to find out response of standard modality of treatment in female patients who has received epidural analgesia during labor and presented with low back pain after delivery.

**Methods:** This study involved retrospective analysis of female patients presenting with low back pain after delivery. All patients treated at our Institute between May 2017 and April 2018 were studied. Patients of age between 22 to 45 Years presented with low back pain after delivery with no history of trauma, fever and no positive clinical findings were included in the study. Patients with neurologic signs, spondylolisthesis, and history of trauma, fever, patients who had previous back surgery and patients who underwent caesarean section were excluded from the study. Patients with low back pain who received Epidural Anaesthesia were labelled as Group A. Patients who did not receive Epidural Anaesthesia were labelled as Group B. Both Group patients received same standard modality of treatment in the form of short term Non Steroidal Anti-inflammatory agents, Vitamin D3, Calcium and Multivitamin preparations along with physiotherapy. Data on outcomes were collected during follow-up in outpatient department or on telephone.

**Results:** 154 Patients who fulfilled inclusion criteria were included in the study. 79 Patients complaining of low back pain after delivery and who received epidural analgesia were labelled as Group A. 75 Patients complaining of low back pain and who did not received epidural analgesia were labelled as Group B. Both Groups have comparable patient characteristics with respect to age, weight, height and obstetric history. There was no significant statistical difference in pain score and functional recovery between the two groups at the end of 2<sup>nd</sup>, 4<sup>th</sup> week, 2<sup>nd</sup> month and 3<sup>rd</sup> month after completion of treatment.

**Conclusion:** Our results demonstrated equal response to standard modality of treatment with short term Non Steroidal Anti-inflammatory agents, Vitamin D3, Calcium, Multivitamin preparations and Physiotherapy. Hence we can counsel our patients that there is no increased risk for low back pain after delivery with the use of epidural analgesia for labour pain and when it occurs response to the treatment is equally good as in those patients who did not receive epidural analgesia.

### KEYWORDS

Low back pain, Epidural Analgesia.

#### Introduction:

Epidural analgesia has been used since long time to relieve labour pain. It is considered as the gold standard technique for pain relief during labour.<sup>1,2</sup> Many patients nowadays prefer epidural anaesthesia during child birth.<sup>3,4</sup> Most of the general Practitioners consider epidural analgesia is the cause of low back pain after delivery.<sup>5</sup>

Literature does not reveal epidural analgesia is the cause for low back pain after delivery.<sup>6,7</sup> The incidence of low back pain after delivery in female patients not receiving epidural analgesia is 43%.<sup>6,7</sup> However, low back pain after epidural analgesia is still a concern in our patients' mind.<sup>6,7</sup> Aim of this study is to find out response of standard modality of treatment in female patients who received epidural analgesia during labor and presented with low back pain after delivery.

#### Materials and Methods:

This study involved retrospective analysis of female patients presenting with low back pain after delivery. All patients treated at our Institute between May 2017 and April 2018 were studied. The study protocol was approved by the institutional review board. Procedures followed are in accordance with the ethical guidelines laid down for Medical research on human participants. Patients of age between 22 to 45 Years presented with low back pain after delivery with no history of trauma, fever and no positive clinical findings were included in the study. Patients with neurologic signs, spondylolisthesis, and history of trauma, fever, patients who had previous back surgery and patients who underwent caesarean section were excluded from the study.

Patients with low back pain who received Epidural Anaesthesia were labelled as Group A. Patients who did not receive Epidural Anaesthesia were labelled as Group B. Both Group patients received standard modality of treatment in the form of short term Non Steroidal Anti-

inflammatory agents, Vitamin D3, Calcium and Multivitamin preparations along with physiotherapy. Data on outcomes were collected during follow-up in outpatient department or on telephone. The assessment of outcome was focused on the effect of treatment on pain relief and the level of function. All patients were analysed for relief of back pain by Visual analogue scale (VAS) and modified Menab scoring. This analysis was done based on 1week, 2 weeks, 4 weeks, 2 month and 3 months follow up records after starting treatment. The comparison between Group A and Group B patients was done by using paired t-test and Chi square test. Statistical significance was considered if  $p < 0.05$ . Statistical analysis was done using SPSS 16.0 software for windows.

#### Results:

154 Patients who fulfilled inclusion criteria were included in the study. 79 Patients complaining of low back pain after delivery and who received epidural analgesia were labelled as Group A. 75 Patients complaining of low back pain and who did not received epidural anaesthesia were labelled as Group B. Both Groups have comparable patient characteristics with respect to age, weight, height and obstetric history as shown in Table 1.

**Table 1: Patient characteristics.**

Patient Characteristic	Group A	Group B
Mean Age in Years	29	27
Mean Weight in Kg.	72	74
Mean Height in cm.	157	159
Obstetric history	41 Patients Primigravida and 38 Multiparous	37 Patients PPrimigravida and 38 Multiparous

In Group A, 56 (70.9%) patients recovered fully within 2 weeks of treatment. 23 (29.1%) patients were recovered fully after a mean period of 3.5 weeks of treatment. Hence all patients were cured completely with short term medication and physiotherapy. The final VAS score was zero in all these patients. Recurrence occurred in 19 (24%) patients after mean period of 3 weeks. Antero-posterior and Lateral Radiographs were done in these patients. 2 patients had grade I/II Spondylolysis and 3 patients had early degenerative changes. Radiographs were normal in 14 patients. These patients recovered late – after a mean period of 7 weeks of treatment. The final mean VAS score was 1.50 in these patients.

In Group B, 53 (70.7%) patients recovered fully within 2 weeks of treatment. 21 (28%) patients recovered fully after a mean period of 3.5 weeks of treatment. In one patient, pain was not relieved completely. Recurrence occurred in 16 (22.7%) patients after mean period of 3 weeks. Antero-posterior and Lateral Radiographs were done in these patients. One patient had sacralisation of 5<sup>th</sup> lumbar vertebra and three patients showed early degenerative changes. Radiographs were normal in 13 patients. These patients recovered late – after a mean period of 6.5 weeks of treatment and the final mean VAS score was 1.50.

There was no significant statistical difference in pain score and functional recovery between the two groups at the end of 2<sup>nd</sup>, 4<sup>th</sup> week, 2<sup>nd</sup> month and 3<sup>rd</sup> month after completion of treatment.

### Discussion:

Low back pain (LBP) is a common complaint after delivery having a great impact on their quality of life. 50% of women will suffer from some kind of low back pain at some point after delivery.<sup>8,9</sup> Literature does not reveal any difference in the prevalence of low back pain after delivery among epidural analgesia and non-epidural analgesia patients.<sup>7,10,11</sup>

Various factors responsible for low back pain after delivery are<sup>12-21</sup>

1. Hormonal changes: After delivery the amount of the Relaxin in the blood will remain high for approximately three months. This will result in a backache as the joints and ligaments are still not stronger and tighter enough to support the back.
2. Long / difficult labor.
3. Bad postures.
4. Overweight.
5. Weakened abdominal muscle: During pregnancy, the growing uterus will weaken the abdominal muscle, resulting in a change in posture. This will put an additional load on the back muscle leading to low back pain.

Various studies have shown that there is no different cause for low back pain in patients who received epidural analgesia during labor. Hence response to standard modality of treatment is same and prognosis is same as that seen in patients who did not received epidural analgesia during labor.<sup>18-23</sup> Our study results show equal response to same standard modality of treatment among epidural analgesia and non-epidural analgesia groups.

**Conclusion:** Our study results demonstrated equal response to standard modality of treatment with short term Non Steroidal Anti-inflammatory agents, Vitamin D3, Calcium, Multivitamin preparations and Physiotherapy. Hence we can counsel our patients that there is no increased risk for low back pain after delivery with the use of epidural analgesia for labour pain and when it occurs response to the treatment is equally good as in those patients who did not receive epidural analgesia.

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