

Original Article

Complications of Obstetric Epidural Analgesia and Anaesthesia: A Clinical Study

Neeraj¹, Deepak Sharma¹, Himanshu Chahuhan¹, Kumkum Gupta²

¹Assistant Professor, ²Associate Professor, Department of Anaesthesia, Subharti Medical College, Meerut, Uttar Pradesh, India

Corresponding Author:

Dr. Neeraj, M.D. (Anaesthesia),
Department of Anaesthesia, Subharti
Medical College, Meerut, Uttar Pradesh,
India

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ABSTRACT:

Background: Epidural analgesia can provide excellent pain relief and may decrease patient morbidity after major surgery. The present study analyzes various complications of obstetric epidural analgesia. **Materials & Methods:** This study was performed in the department of anesthesia from January 2012 to July 2012. We retrieved data from the department regarding various procedures done in this period. All epidural blocks performed for labour and delivery was selected. Patient information regarding name, age, sex, occupation, socio economic status etc was recorded. Any complication arised during or post operatively was recorded from case sheets. A total of 6548 epidural blocks were given in this period. Various surgeries were performed using epidural block. Analgesia was usually established with 0.125% bupivacaine plus fentanyl, or 0.25% bupivacaine, and maintained by midwife administered intermittent boluses, although patient controlled and infusion analgesia were also used. Popular solutions for epidural anaesthesia were 0.5% bupivacaine and 2% lignocaine with adrenaline, both with added fentanyl. Postoperatively, epidural opioid analgesia was continued routinely. **Results:** Various procedures performed were labour analgesia (2210), elective caesarean (1055), unplanned caesarean (1535), vaginal delivery (1238) and caesarean (510). Various technical complications seen during epidural analgesia was difficult to insert (680), failure to insert (82), venous puncture (239), dural puncture (34), catheter damage (17) and difficult to remove (14). The difference was significant (P-0.02). We reported serious complications of epidural analgesia. Unexpected high block was seen in 10 patients. Local anesthetic toxicity was seen in patients. Minor CNS convulsions were seen in 2 patients and traumatic mononeuropathy was seen in 4 patients. Respiratory depression was seen in 17 patients. 7 patients required post delivery epidural opioid. 2 patients required morphine postoperatively and 8 patients required pethidine. **Conclusion:** Epidural anesthesia is one of commonly used procedures for various surgeries with very few side effects and complications. **Key Words:** Epidural, catheter damage, dural puncture

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INTRODUCTION

Epidural analgesia can provide excellent pain relief and may decrease patient morbidity after major surgery. Epidural abscess, meningitis and epidural haematoma are major complications that can arise. Several advances have been done in the field of obstetric epidural anaesthesia. The advent of new analgesic solutions and methods of administration, alterations designed to minimize unwanted effects and improve safety, and improvements in equipment

quality, training and supervision have made it successful.¹

The purpose of any analgesia is to relieve the pain and to decrease postoperative complication of any kind of surgery or procedure. The success rate of analgesia can be checked by analyzing its postoperative complications.² Sometimes, inspite of proper care and handling complications arises despite of expert anaesthetist. It is unclear if an apparent increase in reporting of various complications reflects

an actual increased incidence, increased use of epidural techniques, or the proliferation of medical publication. A study conducted by Thomas³ analyzed various complications of epidural analgesia following surgery. Most common complication was epidural abscess.

Epidural anaesthesia is now a rare cause of maternal mortality. Serious morbidity is undoubtedly more frequent and may lead to litigation. The American Society of Anesthesiologists closed claims database analysis detailed five cases of paraplegia between 1975 and 1989 and several cases of major local anaesthetic toxicity or complication after total spinal block.⁴

The present study analyzes various complications of obstetric epidural analgesia.

MATERIALS & METHODS

This study was performed in the department of anesthesia from January 2012 to July 2012. We retrieved data from the department regarding various procedures done in this period. All epidural blocks performed for labour and delivery was selected. Patient information regarding name, age, sex, occupation, socio economic status etc was recorded. Any complication arised during or post operatively was recorded from case sheets. A total of 6548 epidural blocks were given in this period. Various surgeries were performed using epidural block. Analgesia was usually established with 0.125% bupivacaine plus fentanyl, or 0.25% bupivacaine, and maintained by midwife administered intermittent boluses, although patient controlled and infusion

analgesia were also used. Popular solutions for epidural anaesthesia were 0.5% bupivacaine and 2% lignocaine with adrenaline, both with added fentanyl. Postoperatively, epidural opioid analgesia was continued routinely.

Results were tabulated and analyzed using chi square test. P value less than 0.05 was considered significant.

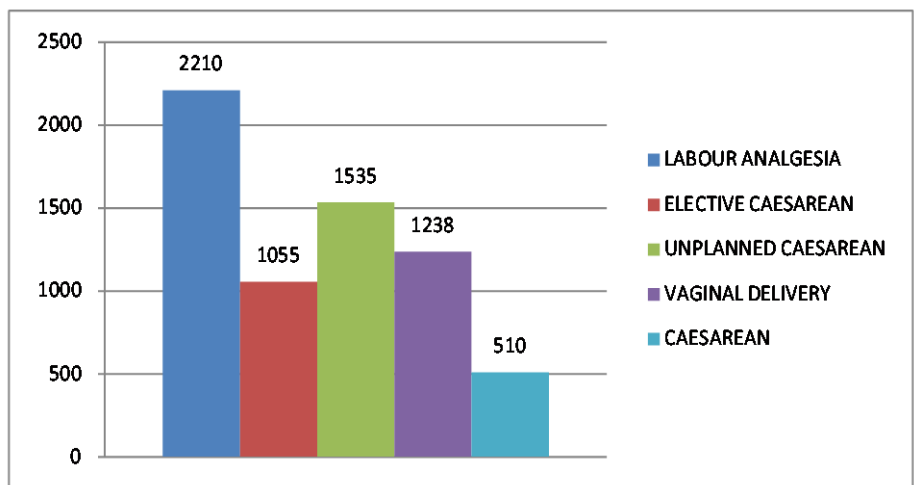
RESULTS

Graph I shows distribution of various procedures performed during epidural analgesia. Various procedures were labour analgesia (2210), elective caesarean (1055), unplanned caesarean (1535), vaginal delivery (1238) and caesarean (510). Various technical complications seen during epidural analgesia was difficult to insert (680), failure to insert (82), venous puncture (239), dural puncture (34), catheter damage (17) and difficult to remove (14). The difference was significant (P-0.02). (Graph- II)

Table I shows serious complications of epidural analgesia. Unexpected high block was seen in 10 patients. Intubation was required in 4 patients. Local anesthetic toxicity was seen in patients. Minor CNS convulsions were seen in 2 patients and traumatic mononeuropathy was seen in 4 patients. Respiratory depression was seen in 17 patients. 7 patients required post delivery epidural opioid. 2 patients required morphine postoperatively and 8 patients required pethidine.

Graph III shows that epidural analgesia was given by specialist (2333) and trainee (4215). The difference was significant (P-0.01).

GRAPH I: Distribution of cases



GRAPH II: Technical Complications

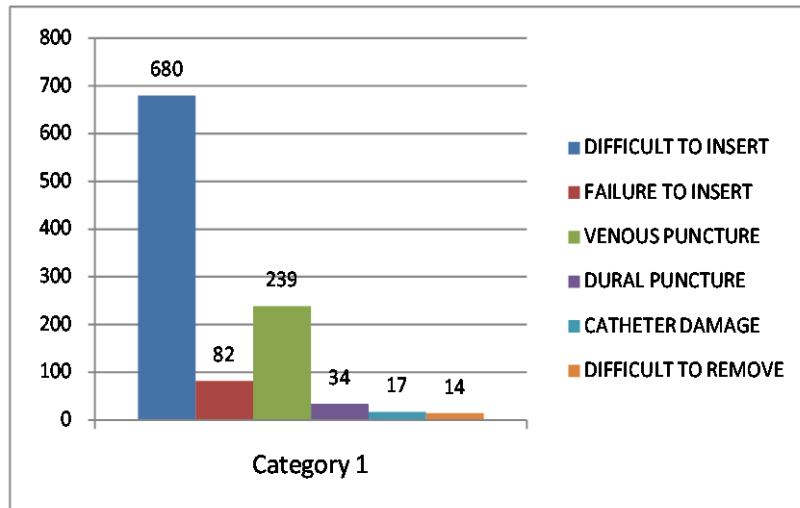
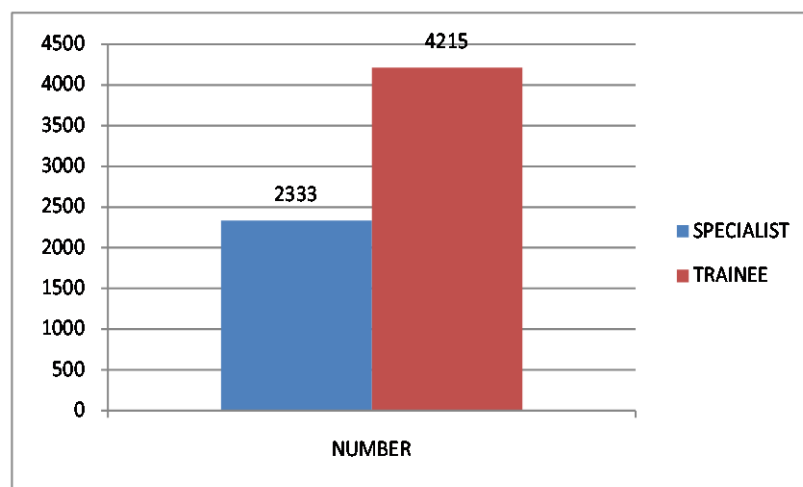


TABLE I: Potential serious complications

COMPLICATIONS	NUMBER
Unexpected high block	10
Requiring intubation	4
LOCAL ANAESTHETIC TOXICITY	
Minor central nervous system Convulsions	2
Traumatic mononeuropathy	4
RESPIRATORY DEPRESSION	
Postoperative or post delivery epidural opioid	7
Post-morphine	2
Post-pethidine	8

GRAPH III: Level of Anesthetist



DISCUSSION

Epidural anesthesia is commonly required in various procedures. There are so many technical and post operative complications that can arise that is one of the big challenge for the anesthetist.

In present study, we recorded the various complications arised during epidural analgesia in various procedures performed between June 2015 to December 2015. A total of 6548 epidural blocks were given in this period. Various procedures were labour analgesia (2210), elective caesarean (1055), unplanned caesarean (1535), vaginal delivery (1238) and caesarean (510).

Various technical complications seen during epidural analgesia was difficult to insert (680), failure to insert (82), venous puncture (239), dural puncture (34), catheter damage (17) and difficult to remove (14).

Catheter damage was an important event in Crawford's 1985 series. In obstetric anaesthesia claims related to equipment, severance of an epidural catheter was responsible for five of eleven cases of medical litigation.⁵ Crowherst⁶ reported various technical complications in his study. Catheter damage and venous puncture was among the commonly seen complications.

We also reported various complications like requirement of high block in 10 cases and Intubation was required in 4 patients. Local anesthetic toxicity was seen in patients. Minor CNS convulsions were seen in 2 patients and traumatic mononeuropathy was seen in 4 patients. Respiratory depression was seen in 17 patients. 7 patients required post delivery epidural opioid. 2 patients required morphine postoperatively and 8 patients required pethidine. Scott DB⁷ reported that CNS depression is one of frequently encountered complication. Youngstrom et al⁸ reported 1 in 1000 temporary neurological sequelae.

We reported that most of the procedures were performed by trainee than specialist. Our results are in agreement to Wilson et al.⁹

CONCLUSION

Author concluded that epidural anesthesia is one of commonly used procedures for various surgeries. A very few side effects and complications have made it choice of anesthesia. The success rate also depends upon experience of the anesthetist.

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