ORIGINAL RESEARCH PAPER

Obstetrics and Gynecology

A STUDY ON THE 'MATERNAL AND PERINATAL' OUTCOME OF OBSTETRIC ANALGESIA DURING LABOUR

KEY WORDS: Labour analgesia, Epidural analgesia, Labour outcome.

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ABSTRACT

AIMS AND OBJECTIVES:

- To analyze the maternal and perinatal outcome of obstetric analgesia during labour and to compare the outcomes with those who did not receive analgesia.

Materials and Methods

- This is a 'descriptive case study' done in the department of 'Obstetrics and Gynaecology' at Institute of Obstetrics and Government Kasturba Gandhi Hospital, during the period October 2012 to November 2013.
- To pregnant women who received epidural analgesia were selected as 'study' group and similar profile as to not received analgesia are taken as 'controls'.

Results

- 70% had excellent pain relief and 80% had expressed acceptance for using labour analgesia in subsequent deliveries which was an excellent response for the study.
- Duration of 2nd stage labour with significantly affected with epidural analgesia. 60% had vaginal deliveries similar to controls.
- Epidural complications were minimal management conservatively and maternal complications were promptly treated and no long-term neurological sequalae noted. According to ACOG (2003) – prolonged 2nd stage is 73hrs in multigravida and 72 hrs. in multigravida in women or regional analgesia.

Conclusion - low dose epidural analgesia, provide a quick pain relief, excellent patient comfort, with more favorable spontaneous vaginal delivery with lower perinatal mortality few manageable maternal side effects with prolongation of particularly 2nd stage but favorable neonatal outcomes.

INTRODUCTION:

'The birth of an neonate to a pain free parturient will be the most rewarding moment in obstetric practice'. Pain relief is an integral part of labour management. Neuraxial technique are the most effective and least depressant labour pain management (ACOG) which also have good Apgar score and decrease the incidence of metabolic acidosis in fetus.

Physiology of Labour Pain:

During first stage of labour uterine contractions result in myometrial ischemia and releases bradykinin, serotonin. And the stretching of lower uterine segment and cervix stimulate mechanoreceptors and the impulses travel via A delta and C-fibres follow sensory nerve travel through paracervical and hypogastric plexus to sensor sympathetic chain at T10-L1 second stage of labour – Afferent impulses from perineum transmit impulses through pudendal to spinal cord at S2, S3 and S4 levels.

AIMS AND OBJECTIVES:

- To analyze the maternal and perinatal outcome of obstetric analgesia during labour and to compare the outcomes with those who did not receive analgesia.
- The objectives are to do detailed analysis in terms of maternal comfort, duration of labour in all 3 stages mode of delivery, maternal complication and neonatal outcome in terms of Apgar scores and neonatal complications.

MATERIALS AND METHODS:

This is a 'descriptive case study' done in the department of 'Obstetrics and Gynaecology' at Institute of Obstetrics and Government Kasturba Gandhi Hospital, during the period October 2012 to November 2013.

To pregnant women who received epidural analgesia were selected as 'study' group and similar profile as to not received analgesia are taken as 'controls'.

Inclusion Criteria:

- Women with Gestational age > 37 weeks with regular uterine contractions >50% effaced >3cm dilatation with cephalic presentation.

Exclusion Criteria:

- Women with cephalopelvic disploportion, malpresentation, placenta previa, coagulation disorder were excluded.
- Written informed consent obtained. An assessment of fetal well being done.
- Low dose Bupivacaine 0.0625% with opioid Fentanyl 25mg administered by anaesthetist.
- The outcome were analysed as per the objectives of study, NICE guidelines recommend continues electronic fetal monitoring during labour analgesia.

RESULTS

1) In the study sample among 70 women, chosen 47% patients were in 20-25 years, 36% 25-30 years, 10% in 19-20 years, 7% in 30 years. Where P=0.496, hence Age group comparison was not statistically significant.
2) Based on gestational age majority was in 38 and 39 weeks where comparison on gestational age was also not significant.
3) 61% were primi and remaining where second gravida.
4) Similarly comparisons were made on Height, Weight, based on medical and obstetric complication of pregnancy and their relative proportions were noted just for a comparative work up.
5) The duration of labour in I stage, II stage, and III stage where studied thoroughly where 47% patient is significantly delayed. 2nd stage labour, beyond 120 min 24% 60-90min, and 21% 90 to 120 min was statistically significant.
6) 61% had vaginal deliveries similar to control with labour natural with epi, 19% instrumental delivery, 21% caesarian section, and P=0.864 not significant.

Regarding III stage complication:

Had retained placate, 6 patients atonic PPH, medically managed, 2 traumatic PPH P=0.642 not significant. 5 patients had inadequate analgesia. 2 Nausea and vomits, 4 had hypertension, intrapartum 7 patients had post-partum minor complications.

Based on weight of baby 37% babies were between 2.8 to 3 kg. Similar to control 35% more than 3kg, 22% 2.5 to 2.8 kg weight was not statistically affected.

70% had good pain relief 15% had fair and only 5% had poor pain relief.

DISCUSSION:

An epidural analgesia is a technique that will make a woman more comfortable in the birthing process. Hence neuraxial techniques with local anesthesia with narcotic most versatile technique for pain relief.

This study conducted in labour ward Kasturba Gandhi Institute to analyze the effects maternal and perinatal outcomes of Obstetrics analgesia in a sample of 70 women in 12 months duration. Inclusion criteria was strictly followed controls with similar profile who did not receive analgesia was also chosen.

Maximum 47% belonged to 20-25 years, mean age – 24.8 where in a study by writer (2006) et al mean age was 27 years, and people study (2008) mean age 26.

In our study 28% where in 38 to 39 weeks GA by in people study (2008) 24% where in 39 weeks GA. 70% had good pain relief in our study compared to Sharma et al (1997) study 90% had pain relief.

In our study mean duration of 1st stage 8 to 10 hours, where in Distinsca et al (2002), mean duration 8 to 9 hours.

Duration of 2nd stage with mean 90 min in study group and 70 min in control group. Where in writer stienstra (2009) mean duration also 90 min.

In our study 60% had vaginal in study and control group, 19% instrumental and 21% caesarian in study group. Among controls 16% instrumental and 24% caesarian delivery. Where in Sharma et al study (2002) 77% had vaginal, 13% instruma and only 10% caesarian deliveries. COMET trial showed 29% instrumental deliveries.

With regard to fetal outcome 80% had Apgar score of 8 to 10 (a) 5 mins which was similar in controls also.

Based on complication in study and control group 1 patient had retained placenta, 6-atomic PPH, 2 traumatic PPH, 5 had inadequate analgesia, 11 patients had minor epidural analgesia complication, where Sharma et al study (1997) showed 1/3 patients had hypotension.

SUMMARY:

- In this study 70% had excellent pain relief and 80% had expressed acceptance for using labour analgesia in subsequent deliveries which was an excellent response for the study.
- Regarding onset of analgesia 55% had rapid onset less than 15 min.
- Duration of 2nd stage labour with significantly affected with epidural analgesia. 60% had vaginal deliveries similar to controls.
- The mean Apgar score was similar in both study group and controls.
- Epidural complications were minimal management conservatively and maternal complication were promptly treated and no long-term neurological sequalae noted. According to ACOG (2003) – prolonged 2nd stage is 73hrs in multigravida and 72 hrs. in multigravida in women or regional analgesia.

CONCLUSION:

I conclude my study with a morale that low dose epidural analgesia, provide a quick pain relief, excellent patient comfort, with more favorable spontaneous vaginal delivery with lower perinatal mortality few manageable maternal side effects with prolongation of particularly 2nd stage but favorable neonatal outcomes.

A quality care for mother and fetus in labour management a combined effort put forth by dedicated obstetrician with experienced anesthesist for expectant mothers of today and tomorrow.

It is art and science to minimize the risk of instrumental vaginal delivery while maximizing comfort of parturient tailoring to individual needs.

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