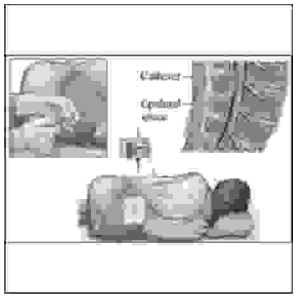
G

ORIGINAL PROF-1271



EPIDURAL ANALGESIA;
EFFECT ON THE DURATION OF LABOUR

DR. MUHAMMAD ASGHAR KHAN, FCPS
Classified Anaesthetist
CMH Kharian

DR. MONA ZAFFAR, FCPS
Classified Gynecologist
MH Rawalpindi

DR. BILAL YASIN, FCPS
Classified Anaesthetist
CMH Kharian

Dr. Shafi ur Rehman, MBBS
Post Graduate Trainee in Anesthesia
CMH Kharian

ABSTRACT… drbilal71@yahoo.com **Introduction**. The influence of epidural analgesia on the length of labour remains a source of controversy in literature. **Objectives.** To see the effect of epidural analgesia on the duration of active first stage and second stage of labour. **Setting:** Obstetric Department of CMH Kharian. **Period:** From 1st January 2005 to 31st March 2006. **Material and methods.** One hundred pregnant full term, women were included in the study. Fifty primiparous reporting at full term, half were given epidural analgesia the other half were control. Another fifty multiparous reporting at full term, twenty five women were given epidural the other twenty five were control. **Results.** The mean duration of active first stage of labour in primiparous women after 3 – 4 centimeter cervical dilatation was 5.10 hrs in the epidural group while it was 6.65 hrs in the control group (p less than 0.001). In the multiparous women the mean duration of active first stage of labour after 3 – 4 centimeter cervical dilatation was 2.40 hrs in the epidural group while it was 3.43 hrs in the control group (p less than 0.001). In the primiparous women the mean second stage was 23.76 minutes in the epidural group, and 37.33 minutes in the control group (p less than 0.001). In the multiparous group, the mean second stage was 17.58 minutes in the epidural group, and 22.00 minutes in the control group (p less than 0.001). **Conclusion.** Epidural analgesia decreases the duration of active first stage and second stage of labour.

Key words: Epidural analgesia, duration of labour.

INTRODUCTION

The pain of labour has been with us since the Garden of Eden. It seems to be more intense for some than others, possibly explaining why some need more analgesia than others. In 1847, Scottish obstetrician James Simpson administered ether to a woman during labour to treat the pain of child birth. Although he was successful in achieving an adequate level of analgesia with the use of the drug but he expressed concern about the possible complications of anesthesia.

Over 150 years later, the effects of analgesia during labour on the maternal and neonatal outcome remains a topic of discussion amongst the obstetricians,

anesthetists and patients. A number of studies have been carried out to see the effects of different techniques of analgesia on the duration of labour.

There are many methods of pain relief such as opioids[1], hydrotherapy, hypnotherapy, massage and others[2]. The influence of epidural on the length of labour remains a source of controversy in literature.

AIMS AND OBJECTIVES

The aim of this study was to see the effect of epidural analgesia on the duration of active first stage and second stage of labour.

MATERIAL AND METHODS

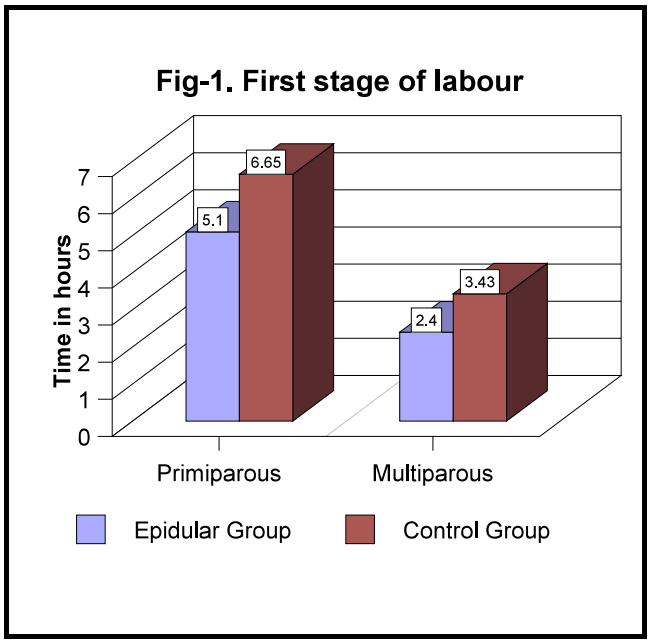
This was a randomized prospective study carried out in the Obstetric Department of CMH Kharian during the period from 1st January 2005 to 31st March 2006. One hundred pregnant full term, women were included in the study. Fifty primiparous reporting at full term, half were given epidural analgesia the other half were control. Another fifty multiparous reporting at full term, twenty five women were given epidural other twenty five were control. Detail history and physical examination and routine investigations were carried out. All patients had singleton healthy pregnancy (36 – 42 weeks) with a vertex presentation and healthy fetal heart rate pattern on cardiotochography.

Exclusion criteria: Women with any systemic illness like hypertension, diabetes, ischemic heart disease, coagulopathy and those who ended up in Caesarean section were not included in the study.

All the patients were monitored for progress of labor. In the epidural group when cervical dilatation reached 3 – 4 centimeters and fetal head was noted going down, an epidural catheter was placed in the lumber epidural space (L 2 – L 3) 500 milliliters of a colloid solution was infused before activation. 10 milliliters of 0.25 % bupivacaine was given through the epidural catheter as a bolus dose in all the patients. This was followed by a "top up" method. Duration of first and second stage of labour was noted. Data was analyzed using SPSS version 10. Student's t test was applied on quantitative variable.

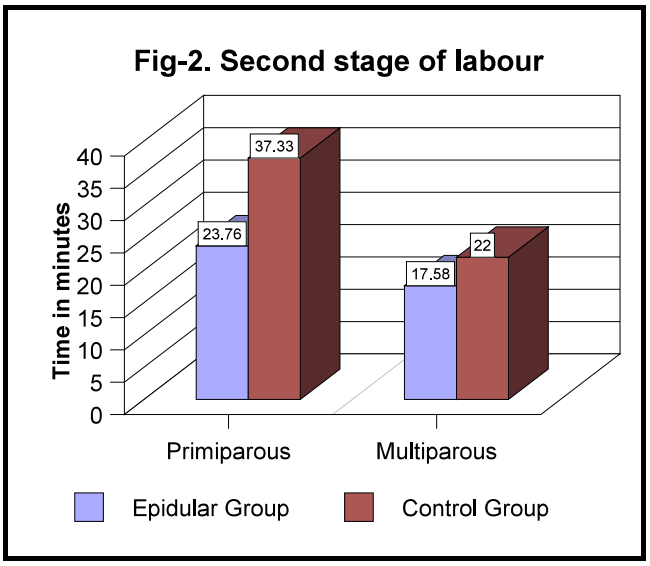
RESULTS

The mean duration of active first stage of labour in primiparous women after 3 – 4 centimeter cervical dilatation was 5.10 hrs in the epidural group while it was 6.65 hrs in the control group (p less than 0.001). In the multiparous women the mean duration of active first stage of labour after 3 – 4 centimeter cervical dilatation was 2.40 hrs in the epidural group while it was 3.43 hrs in the control group (p less than 0.001). Figure 1.



Of the fifty primiparous patients 43 completed the study. In the multiparous group 46 patients completed the study. Those not completing the study ended up in cesarean section.

In the primiparous women the mean second stage was 23.76 minutes in the epidural group, and 37.33 minutes in the control group (p less than 0.001). In the multiparous group, the mean second stage was 17.58 minutes in the epidural group, and 22.00 minutes in the control group (p less than 0.001). Figure 2.



DISCUSSION

Epidural analgesia is widely used for pain relief of labor as it provides much superior analgesia compared to systemic opioids[3]. It is also being used with increasing frequency in Pakistan as well[4].

It is thought that epidural analgesia is associated with prolongation of 1st and 2nd stage of labour significantly[5]. Although this increase in the duration of labour stages does not have adverse effect on the perinatal outcome and perinatal complications[6]. In our study we have observed the influence of epidural analgesia on the duration of labour in both primiparous and multiparous. We have found that the duration of both first and second stages of labour is reduced significantly when compared to those not given epidural analgesia. Almost same findings are observed in a study conducted by Lurie S and Matzkel A.[7].

The decrease in the duration of labour which we have observed is due to the fact that epidural analgesia improves both the strength and frequency of uterine contractions[8]. It is also known that in event of painful first stage of labour, administration of epidural block may shorten the first stage[9]. It is not known how epidural analgesia improves the cervical dilatation. But this may be due to excellent analgesia of epidural block which reestablishes a normal pattern of labour in patients with abnormal or hyper stimulated patterns of labour[10]. The short duration labour is of benefit to the patient as there is marked reduction in the maternal pain, suffering and labour related injuries to the birth canal.

CONCLUSION

Epidural analgesia decreases the duration of active first stage and second stage of labour.

REFERENCES

1. Bricker L, Lavender T. **Parenteral opioids for labour pain relief: a systemic review.** Am J Obstet Gynecol 2002; 186: suppl: S94 – S109.
2. Sim kin PP, O' Hara M. **Non pharmacologic relief of pain during labour: systematic review of five methods.** Am J Obstet Gynecol 2002; 186: suppl: S131 – S159.
3. Lucas M J, Sharma S K, McIntire D D, et al. **A randomized trial of labour analgesics in women with pregnancy induced hypertension.** Am J Obstet Gynecol 2001; 185: 970 – 975.
4. Khan KS, Khan KF, Rasul S and Chohan U. **The safty of epidural analgesia in labour and its effect and delivery – a case control study in Pakistani women.** J Pak Med Assoc. 1993 Jun; 43(6): 115-7.
5. Halpern S H, Leighton B L, Oh Isson A, Barrett J F, Rice A. **Effect of epidural vs parental opioids analgesics on progress of labour: a Meta analysis.** JAMA 1998; 280: 2105 – 2110.
6. Sienko J, Czajkowski K and Swiatek-zdzienicka M. **Epidural analgesia and the course of delivery in term primiparas.** Ginekol Pol 2005 Oct; 76(10): 806- 11.
7. Lurie S, Matzkel A. **Epidural anesthesia shortens duration of labor in singleton vertex presentation spontaneous delivery.** Asia Oceania J Obstet Gynaecol. 1991 Sep; 17(3): 203-5.
8. DeVore JS, Eisler EA. **Effects of anesthesia on uterine activity and labor.** In: Shnider SM, Levinson G, eds. Anesthesia for Obctetrics. Baltimore; Williams & Wilkins, 1987: 41- 44.
9. Cheek TG, Gutsche BB. **Epidural anesthesia for labor and vaginal delivery.** Clin Obstet Gynecol 1987; 30: 515-529.
10. Moir D, Willocks J. **Management of incoordinate uterine action under continuous epidural analgesia.** Br Med J 1967; 3: 396-400.