Epidural Anaesthesia for Elective Caesarean Section*

Case report

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Summary

Continuous epidural anaesthesia is now established method for the relief of pain associated with labour and childbirth, and for Caesarean section, both elective and emergency. A 34 year old woman at term was electively allocated for Caesarean section because her previous two deliveries were managed in the same manner. The report emphasizes the advantages of epidural over general anaesthesia for safe conduction of Caesarean section.

Key Words

Elective Caesarean section:
Anaesthetic Technique: Epidural

Epidural anaesthesia has been used with increasing frequency for obstetric patients during the past twenty years. When properly applied, efficient analgesia is invariably obtained, maternal satisfaction is high, and serious morbidity is significantly low.[1] Maternal and fetal acid-base status are better maintained under epidural anaesthesia.[2,3] Neonates delivered by Caesarean section under epidural anaesthesia have higher Apgar scores and less fetal depression than those babies delivered by general anaesthesia[3]. In addition, epidural anaesthesia eliminates some of the risks associated with general anaesthesia, namely aspiration pneumonitis and awareness[4]. A further advantage is that the mother is alert and thus an early mother-infant emotional bond is established.

Case report

A 34 year old woman, gravida 3 para 2, was admitted in St. Luke's Hospital at 39 weeks of gestation for an elective, lower segment Caesarean section. Her previous two children were delivered by elective Caesarean section conducted under general anaesthesia. The patient was well nourished and in good health. Her antenatal period was uneventful and she had gained 12 kg in weight durign the course of this pregnancy. On admission, laboratory findings were within normal limits. Her haemoglobin (Hb) level was 11.2g dl^{-1}, white blood cell count 6.1 x 10^9 l^{-1}, and platelet count 173 x 10^9 l^{-1}.

She gave informed consent for the procedure and was premedicated with diazepam (Valium) 10 mg orally one hour prior surgery.

An intravenous infusion of 500 ml $^1/_2$ Ringer lactate in 5% Dextrose, was given in the 15 min preceding the induction of epidural anaesthesia. Left lateral tilt was utilised to prevent aortocaval compression.

Epidural anaesthesia was induced with the patient in sitting position, using a midline approach and a Tuohy needle G 17. An epidural catheter was inserted, advanced 2-3 cm cephalad, and 19 ml of 0.5% plain bupivacaine (Marcain) was used in accordance with the method of Thorburn and Moir (1980).[5] After twenty minutes, the level of anaesthesia was checked bilaterally by pin-prick and was found to extend from T_6 to S_5. Peroperative fluid therapy consisted of 1.5 l cristaloid infusion. A routine lower segment Caesarean section was performed and a baby-boy weighing 2600 g was delivered with one and five minutes Apgar scores of 10.

Surgery was terminated uneventfully and no vascular or pulmonary complications occured in the post-operative period.

Discussion

In contrast to narcotics, epidural anaesthesia produces complete relief of pain and the hazard of pulmonary aspiration of gastric content during general anaesthesia is virtually eliminated.

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*The very first Caesarean section under epidural anaesthesia in Malta was done in St. Luke's Hospital on the 20th of May, 1980.

When properly administered, epidural anaesthesia causes no maternal or neonatal depression. It also permits the mother to remain awake during labour and delivery so she can participate actively in the birth of her child.

Our patient remained awake and was co-operative and enthusiastic during the whole procedure. Significant haemodynamic changes in our patient were prevented by appropriate fluid therapy. Blood loss was insignificant.

The Apgar score of the neonate at one and five minutes were both 10, indicating an undisturbed placental perfussion. Epidural anaesthesia eliminates the progressively increasing maternal metabolic acidosis which occurs in the first stage of normal labour.[6]

One hopes that continuous epidural anaesthesia in Malta will become a more frequent procedure for anaesthesia in Caesarian section and for pain relief during labour and childbirth *. Maternal diabetes mellitus is also a relative indication for use of epidural anaesthesia in labour. According to the recent Survey (W.H.O 1981) the prevalence of diabetes mellitus in Malta is 7.7%. Therefore, it seems appropriate to offer epidural service for labour and delivery to a population with high prevalence of diabetes mellitus.

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* The very first labour and delivery under epidural anaesthesia in Malta was performed in Karen Grech Hospital on 18th of April, 1982.