

Painless Childbirth

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THE term 'painless childbirth' is used to describe the analgesic provided by the lumbar epidural technique. This description has proved to be quite justified. No other single method can claim to provide the absolute pain relief of this technique. Furthermore, the pain relief can be continuous for as long as required. In some cases the catheter is left in situ to abolish stitch pain after delivery, for up to 24 hours.

Continuous lumbar epidural anaesthesia has a definite place in the treatment of pre-eclamptic toxemia, and in cases in which a trial of labour is decided upon. In the latter, the obstetrician can 'buy time' by having first stage pain (T 11-12) relieved. His hand is not forced by the presence of maternal distress.

The relief of first-stage pain by other techniques such as caudal or paracervical block, may require up to 10 times the quantity of local anaesthetic.

Advantages of Lumbar Epidural Anaesthesia

Accepting that there are complications and dangers in this as in other techniques, I will summarise the advantages as I see them.

1. Absolute pain relief from two fingers (4 cm.) dilatation
2. Minimum dosage producing maximum effect
3. Babies delivered with good Apgar scores
4. One injection for the patient
5. High success rate compared to other techniques
6. The harmful effects of overventilation due to pain in labour are abolished
7. No danger of aspiration of stomach contents, always a hazard in general anaesthesia in obstetrics
8. Consciousness completely unimpaired by drugs
9. Good rotation of the head against a rigid perineum
10. Blood loss minimal
11. No fear or apprehension with regard to future pregnancies
12. Excellent physical and mental health in the puerperium resulting in earlier discharge from hospital

The use of continuous lumbar epidural anaesthesia to provide painless childbirth has become a practical proposition for two reasons: (1) The availability of a long-acting local anaesthetic, bupivacaine (LAC 43 Marcaine), which does not exhibit tachyphylaxis (a decreasing response to consecutive injections) to the same extent as other local anaesthetics. (2) A bacterial filter, a millipore, capable of sterilising a solution being injected through it. The first reduces the frequency of

top-up injections, and the second obviates the necessity for elaborate sterile precautions before each injection.

The syringes, needles and epidural catheter are dropped from their sterile containers on to the opened autoclaved pack. The ampoule of methyl amphetamine or other blood pressure raising drug is kept nearby so that a hypertensive agent will always be readily available.

The filter of the millipore is changed before each autoclaving, and the gasket is replaced after being used three or four times. The two parts of the millipore are firmly screwed together and it is tested for patency and leaks, using a syringe containing air, before being included in the pack.

In addition, a drip, normal saline, dextrose, or Hartmann's solution is prepared, a syringe, a fine needle and some local anaesthetic for the insertion of an intravenous cannula is made ready.

If these preparations have been made before the anaesthetist arrives, the whole procedure should be complete and the patient ready to be returned to bed within half an hour.

Technique

Once the cervix has reached two fingers dilatation (4 cm.) an intravenous cannula is inserted and a drip commenced. Blood pressure and foetal heart are checked. The patient is placed on her right hand side with her back close and parallel to the edge of the bed, which must not sag. Her entire back is now uncovered. When the anaesthetist is ready to identify the epidural space, he will ask the nurse to flex the patient. This is done by bringing the patient's knees up as far as possible towards her abdomen and her chin down towards her knees without allowing the spine to rotate. Maximum flexion of the back makes the identification of the epidural space much easier for the anaesthetist by opening up the spaces between the spines of the vertebrae and by producing a negative pressure in the epidural space, which is important in its identification.

The anaesthetist scrubs up, puts on gloves, swabs the patient's back and sterile towels are put in place. Local anaesthetic (approx. 1 ml.) is injected through a fine needle, equidistant between the spines of the second and third lumbar vertebrae, or other convenient space, infiltrating all layers from the skin to the supraspinous ligaments. The epidural needle is inserted and the space identified. The opening of the Touhy's needle is cephalad.

The catheter is inserted four to five cm. only beyond the tip of the needle to avoid kinking and to prevent the catheter escaping through one of the numerous intervertebral foramina. On no account must the catheter be withdrawn for any reason, as it could be cut by the sharp Touhy's needle. The epidural needle is now withdrawn over the catheter leaving the catheter in the epidural space. A small test dose is injected into the catheter to ensure that it is patent,

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