CONTINUOUS PARACERVICAL BLOCK ANALGESIA IN LABOUR

by

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and

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Paracervical block for analgesia in the first stage of labour has been known for quite some time. Injection of a local anaesthetic agent into the broad ligament gives relief from pain in the first stage of labour. Gellert in 1926, Pribam in 1927 and Henriel in 1937 have mentioned about it in the German literature. Rosenfeld reported the same in 1945. Many reports have since been published with some modification in the appliances.

Paracervical block essentially gives relief from pain in the first stage of labour. This pain is as a result of forceful dilatation of the cervix. The pain in the second stage is due to the vaginal and vulvar pressure and distension and is transmitted by the pudendal nerves. Thus, the paracervical block has no effect so far as the pain of second stage of labour is concerned. The paracervical block anaesthetises the pelvic plexus of nerves lying at the base of broad ligaments and utero-sacral ligaments.

For a long time, a single dose paracervical block or intermittent paracervical block was used. It was only when the idea of continuous paracervical block came into existence that needles with in-dwelling catheters of various types were devised. The needles devised by Burchell and Sadove, Baggish and Alvarado *et al* serve this purpose. The needles used for this are either made of stainless steel, Teflon or polythelene. The principle that is followed in needles for continuous paracervical block is the use of some device or measure that would keep the needle in place.

Baggish uses a Teflon needle having 2 stylets—one of Teflon and another of stainless steel, the needle is kept in place by a silk suture taken through the skin of the perineum. The needle used by Alvarado *et al* has a stainless steel plate at its terminal end which prevents the needle from slipping.

Method and Materials

The present study was carried out at Nowrosjee Wadia Maternity Hos-

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pital, Bombay. Burchell and Sadove's needle was used. This needle consists of 2 parts—a small catheter with a needle fused at one end and a covering sleeve. One needle is placed on either side in the paracervical region at 3 o'clock or 4 o'clock and 9 o'clock or 8 o'clock positions. The catheter with the needle attached to it can be moved inside the covering sleeve. For introduction of needle on the left side, the left hand is introduced into the vagina, and for the right side, the right hand. Once the site of the puncture is determined, the needle is pushed in. At the end of this, the needle projects about 2 cms. beyond the covering sleeve. Because of this arrangement, chances of damaging broad ligament vessels are minimal.

Ten ml. of 1% xylocaine are then injected on either side, with previous aspiration in order to avoid intravascular injection. If blood is withdrawn, injection of the anaesthetic solution is withheld and a fresh puncture is carried out. After the first dose, the needle is kept in position by broad strips of adhesive tape, fixing the catheter to the anterior abdominal wall and thighs. The same amount of anaesthetic solution is injected every 45 minutes, irrespective of whether the patient feels pain or not, till the end of first stage of labour. At times, it was injected only when the patient started complaining of pain.

Dose

Most of the time, 1% xylocaine alone was used as an anaesthetic agent. At times, 2% xylocaine, 5 ml. or 1% xylocaine with adrenaline was used. The maximum dose used in this series was 200 ml. of 1% xylocaine.

Results

Relief of pain: Depending upon the degree of relief from pain, the cases were divided into 4 categories.

1. Excellent or complete relief of pain.
2. Good or partial relief of pain. In this group, the patients were relieved of pain, but were still conscious of uterine contractions.
3. Fair or slight relief. These patients were relieved of pain, but only to a slight extent.
4. Poor or no relief. There was no relief from pain in this group.

Table I gives the degree of relief of pain.

TABLE I

Results	No. of cases	Per cent
Complete relief ..	46	65.7
Partial relief ..	14	20.0
Slight relief ..	8	14.3
No relief ..	2	
Total ..	70	

Of the 70 patients studied, 46 had complete relief from pain, 14 had partial relief, 8 slight relief and 2 were not relieved at all.

Nature of delivery

Table II gives the nature of delivery in these cases and the indications for interference, whenever required. On 2 occasions, low forceps was applied solely to cut short the second stage of labour. One was a primipara with mitral stenosis and the other, a second para with bronchiectasis and cor pulmonale.

Midcavity axis traction forceps was applied in a primipara with persistent

TABLE II
Nature of delivery

Nature of delivery	No. of cases	Indication
Normal delivery	65	—
Midcavity forceps	1	Mild cephalo-pelvic disproportion, prolonged second stage in a primipara
Midcavity axis-traction forceps	1	Persistent occipito-posterior position, prolonged second stage and face to pubis delivery in a primipara
Low forceps	1	Mitral stenosis in a primipara
	1	Severe bronchiectasis with cor pulmonale
Lower segment caesarean section	1	Foetal distress

occipito-posterior position and prolonged second stage. The baby was delivered as face to pubis. This patient was bearing down with each contraction in the second stage of labour. The second patient who had mid-cavity forceps delivery was also a primipara with mild cephalopelvic disproportion and prolonged second stage.

Lower segment ceasarean section was undertaken in a primipara for foetal distress. This patient received 2 doses of Inj. xylocaine with adrenaline. The cervix was about half dilated at the time of interference and the biparietal diameter was above the ischial spines. The foetal heart sounds had dropped down to 90 per minute. There was mild cephalopelvic disproportion also present in this case. The baby was deeply asphyxiated at birth and died 4 days later.

Complications

(1) Three patients developed transient lower limb paraesthesia following the paracervical block. The results in these patients, so far as relief from pain is concerned, were fair. This numbness disappeared as soon as the effect of anaesthesia was over.

(2) Excitability and flashes were obtained in one patient. She received a high dose of 200 ml. over a period of 8 hours. Xylocaine was administered only when the patient started complaining of slight pain. These side-effects were obtained after the last dose of the anaesthesia. She had a normal vaginal delivery.

(3) A broad ligament haematoma developed in one of the patients. She was a 13th para who had a spontaneous vaginal delivery. On the second day post-partum, a lump was detected on the left side of the lower abdomen which was tender to feel. The patient was put on antibiotics. Under observation, the size of the swelling decreased and the tenderness diminished. The patient was discharged on the 7th day post-partum. There was no palpable mass when the patient attended the post-natal clinic 3 weeks after discharge.

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F. was seen in 3 patients. This settled down after a day.

(5) The only baby that expired in this series was born by lower segment caesarean section. It was deeply asphyxiated at birth and died after about 48 hours.

(6) Transient foetal bradycardia was noticed on 4 occasions. All these patients were administered xylocaine 1% with adrenaline.

TABLE III

Various complications

Complications	No of cases
1. Transient paraesthesia of lower limbs	3
2. Excitability	1
3. Broad ligament haematoma ..	1
4. Pyrexia	3
5. Transient foetal bradycardia ..	4
6. Neonatal death	1

Summary and Conclusions

(1) Paracervical block appears to be an important method for achieving relief from pain in the first stage of labour.

(2) With the in-dwelling catheter, the effect of the block can be continued for as long as necessary.

(3) As it appears from this analysis, it has no effect on the outcome of labour.

(4) The complications that were encountered are minimal, compared to the ease of administration and the relief from pain.

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