

PARACERVICAL BLOCK IN ACCELERATION OF ACTIVE PHASE OF LABOUR IN PRIMI GRAVIDAE

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SUMMARY

The effect of Paracervical block (PCB) on active phase of labour and pain relief in 50 uncomplicated primigravidae at full-term was studied. Twenty-five subjects served as Control. The PCB was helpful in significantly effect on uterine contractility, mode of delivery, and Apgar score of newborn. Maternal complications were few and transient.

INTRODUCTION

Expeditious, painless and safe delivery have been the cherished dream of both mother and obstetrician. Unduly prolonged labour is distressful to all-mother, fetus and obstetrician. Paracervical block (PCB) is one simple, cheap, safe and effective method to reduce both duration and pain of labour. Such a method, in our setting also has the potential to reduce the burden on the overcrowded labour room of large hospitals. The present study records our experience with paracervical block in primigravidae.

MATERIAL AND METHODS

The study was conducted in 75 full-term primigravidae of 18 - 28 years age range with uncomplicated pregnancy and in early labour. Fifty primigravidae were given paracervical block using 5 ml of 2% Xylocaine on either side of cervix by specially designed needle with all aseptic precautions. Rest 25 served as control. Besides detailed history and examination of the patient, BP and pulse rate were recorded before and after giving PCB and every 15 minutes thereafter for 2 hours, uterine contractions were judged before and after Xylocaine injection and fetal heart rate was recorded before, after the PCB and then every 5 minutes for 30 minutes, followed by every 15 minutes for next 2 hours. Pain

relief and appearance of side-effects were recorded by direct questioning.

PROCEDURE

After preparation for normal labour, the patient was put in dorsal position. Any infection of the genital tract and cephalopelvic disproportion were excluded. The injection was administered between 4 and 6 O'clock position on one side and between 6-8 O'clock position on the otherside. The needle was directed to Frankenhausers plexus with the help of the index finger. Care was taken to avoid intra-fetal, intramyometrial and intravessel injection. Uterine contractions and progress of labour was observed, time duration of various stages of labour, any postpartum complications and Apgar Score of the baby were recorded.

OBSERVATIONS

The age range in the study and the control groups were 18 - 27 years and 18 - 28 years respectively. The degree of pain relief was reported to be excellent in 20%, good in 24%, fair in 40% and no relief in 16% in the study group. None reported an increase in pain. The uterine contractility was observed to be the same in 88%, increased in 4% and diminished in 8%. The fetal heart rate remained the same in 88% increased (by less than 10 beats/minute) in 8% and decreased by 6-7 beats/minute in 4% patients.

No significant change in the heart rate and blood pressure was recorded in the mother after PCB. The mode of delivery in both the study and control groups is shown in Table-I. None of the patients

Table-I

Mode of Delivery	Control Group		Study Group	
	No.	Per cent	No.	Per cent
I Spontaneous	23	92.00	49	98.00
II Outlet Forceps	1	4.00	1	2.00
III Low Mid-cavity Forceps	1	4.00	-	-

Table-II

Stage of Labour	Study Group Mean Duration (in Minutes)	Control Group Mean Duration (in Minutes)	Significance
Active Phase	113.48 + 45.90	264.20 + 75.10	P<0.01 S
IIrd Stage	28.80 + 9.80	33.60 + 10.10	P>0.05 NS
IIIrd Stage	8.26 + 7.76	9.39 + 2.95	P<0.05 NS

needed caesarean section. The one minute Apgar score of the newborn in both groups was more than 8 in all patients. Only minor transient side-effects were recorded in the study group patients. Two out of 50 had tingling sensation and numbness in the lower limbs. Only one patient had a minor local hematoma. The comparison during the three phases of labour in the study and control group are shown in Table-II.

DISCUSSION

The present study was planned to find out the efficacy of PCB in pain relief and accelerating the first stage of labour in primigravidae. This technique was demonstrated by Rosenfield in 1945. It gained popularity in the following two decades.

Several studies have confirmed the efficacy of this method in pain relief. As many as 90-100% of subjects had significant relief in pain (Aldridge et al, 1961; Deshpande et al, 1989; Ranney, 1966; Cooper and Moir, 1963). The pain relief failure rate ranged only 5 to 11.7%. In present study also 84% patients had relief in pain.

No appreciable change in the maternal pulse rate and blood pressure was recorded after the block. Similar observations were reported by Curtis, (1969), Gordon (1968) and Jina et al 1991.

As regards influence on uterine contractility, literature is equivocal with Ranney (1966) reporting no effect while Freeman (1961) reported definite decrease. Jina et al (1991), reported a variable response. We recorded reduced contractility in 4% cases.

Despite equivocality on uterine contraction all authors including an Indian report by Deshpande (1989) have reported the faster dilatation of the cervix in the active phase of labour after the block in the majority of their patients. Even Bakin et al (1962) who reported poor uterine contractions after the block have recorded dramatic progress in cervical dilatation. The present study also recorded significant reduction in duration of active phase (Table II). The total duration of labour in study group (2 hours 30 minutes) recorded marked diminution in comparison to control group (5 hours 10 minutes). Similar observations have been made by Deshpande (1989) and Jina et al (1991). However, Ranney (1966) recorded no significant change in its total duration.

Deshpande (1989) and Jina et al (1991) showed no influence of paracervical block on the mode of delivery as has also been observed in our study also. Goodlin (1966) reported that paracervical block does not affect the Apgar score of the baby in uncomplicated pregnancy as is observed in this study also. However, Rogers (1970) and Solohemo (1968) showed very slight fall in Apgar Score.

Besides hematoma at the episiotomy site in one patient no other maternal side effect was recorded in the present study. However a word of caution is necessary as Jung et al 1969 recorded mild transient paresis of lower limb besides numbness and tingling in distribution of the sciatic nerve after PCB. Other complications reported in literature are incontinence of

rectum, urinary retention and occasional parametritis.

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