

ACCELERATION OF LABOUR BY I/C HYALASE INJECTION

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SUMMARY

A study of 200 cases in labour showed that the labour could be accelerated by intracervical injection of hyalase. Average reduction in the time of labour was found to be 5.40 hours in primigravida and 2.96 hours in multigravida. The best results were observed at 5 cm cervical dilatation.

Introduction

It is well known in the obstetrics that the cervix plays an important role in labour. A woman with a ripe, soft and well effaced cervix has a labour of shorter duration as compared with a woman who has an unripe firm, tubular cervix at the onset of labour. Other factors viz. the type of uterine contractions, size of the foetus, age of the mother and the type of pelvis also affect the duration of labour but the state of the cervix is of very important consideration.

The hazards of prolonged labour are well recognised for the mother and the foetus. Cervical dystocia is a well recognised condition in obstetrics for which operative interference is required fairly frequently.

The fibrous nature of the cervix is well known and this firmness of the cervix interferes with progress and softening promotes it. The time of labour is directly proportional to the state of cervix

(Buckingham *et al* 1962; Friedman and Sachtleben 1962 and Green 1967).

The present approach through enzymic lysis of the intra-cellular mucopolysaccharide appears to offer the safest and most practical technique. The softening of the cervical tissues is observed to be associated with the separation of connective tissue bound complex high molecular weight hydrophylic mucopolysaccharide, hyaluronic and chondroitin etc. (Danforth, 1947; Voutsas *et al* 1963). The enzyme hyaluronidase that functions under hormonal control (Zachariae, 1959) causes decrease in the adhesion of cervical cells and hastens the cervical dilatation and delivery.

The present study has been undertaken to evaluate the effect of injecting hyalase into the cervix during labour in primigravida and multigravida.

Material and Methods

The study was carried out on 200 women. Booked as well as unbooked emergency cases were selected. The patients were divided into two series

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(1) Hyalase series—150 cases (2) control series—50 cases. The hyalase series were further sub-divided into sub-groups as primipara 75 cases and multipara, 75 cases. These patients with no complications as toxæmia, anaemia or any other disease were given intracervical hyalase injection (3000 International Unit each). The drug was injected when the patient was in well established labour i.e. 2-5 cm of cervical dilatation and cervix was partially effaced, the vertex at the level of ischial spines i.e. 0 station or above the ischial spines i.e.—1 station. Fifty cases were similarly taken as control that did not receive hyalase therapy.

Two ampules of hyalase were dissolved in 10 cc of distilled water. Cervix was visualized, under aseptic conditions with anterior vaginal wall retractor and Sim's speculum. 750 I.U. of hyalase was injected at each place in 3, 6, 9 and 12 O'clock position.

The progress of labour was watched and the time of delivery was taken as end point of observations since it was difficult to know the full dilatation of cervix and so repeated vaginal examinations were avoided.

Results

The results of intracervical hyalase injection are summarised in Tables I and II. The labour accelerated by hyalase is quite evident from the Tables I and II.

Table III shows that the mean injection delivery interval in AI group is 6.25 hours, BI group is 4.25 hours while in AII and BII, the mean duration was 11.65 hours and 7.21 hours respectively. So the labour was shortened by 5.40 hours in primigravida and 2.96 hours in multigravida.

Forceps were applied in both hyalase and control series and indications for forceps application were mostly foetal distress, maternal exhaustion and failure of secondary powers. Some cases developed uterine inertia and so pitocin drip was given. Two cases in hyalase series had caesarean section, one due to uterine inertia at 5 cm dilatation and 0 station. The second was done at 7 cm dilatation due to foetal distress.

There was no untoward effects on the foetus or mother. The incidence of third stage complications was not increased and no case of cervical injury was found.

TABLE I

Acceleration of Labour in Primigravidas by Intracervical Injection of 3000 I.U. Hyalase

Dilatation of cervix (cm)	Station of vertex	CONTROL		HYALASE	
		No. of cases	Mean time in labour till delivery (Hours)	No. of cases	Mean time in labour till delivery (Hours)
2	—1	4	13.48	14	8.41
3	0	2	20.57	5	6.50
3	—1	6	16.72	8	9.05
4	0	2	7.65	13	6.81
4	—1	4	7.36	8	6.69
5	0	5	7.46	20	4.07
5	—1	2	7.50	7	4.81

* 0 = Station: At the level of ischial spines.

**—1 = Station: Above the level of ischial spines.