

EFFECT OF INTRAVENOUS INFUSION OF EPIDOSIN ON LABOUR

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SUMMARY

The effect of intravenous infusion of epidosin on duration of labour was evaluated and results obtained were compared with control group and intramuscular group. It was found that shortening in the duration of first stage of labour was more with intravenous infusion of epidosin than with intramuscular epidosin. This difference was statistically significant ($p < 0.001$). There were no significant side effects on the mother and fetus.

INTRODUCTION

Labour is one of the most important episodes in the life of a woman. In prolonged labour the mother is exposed to higher risk of infection, dehydration, ketosis and loss of morale. The fetus, on the other hand, is exposed to higher risk of infection, asphyxia and excessive cranial moulding. Considering these facts, great interest has developed in trying to reduce the duration of labour without jeopardising maternal or fetal interests. A major breakthrough was achieved in this direction with the introduction of Efodin by Steinmann (1953).

The present study has been conducted to evaluate the effect of intravenous infusion of epidosin on duration of labour in uncomplicated primigravidae, outcome at the end of second stage of labour and its side effects on the mother and foetus if any.

MATERIAL AND METHODS

A total of 150 uncomplicated primigravidae from the Department of Obstetrics and Gynaecology of Medical College, Amritsar were taken up for the study from August 1993. The subjects were included in the study when they were full term with established labour having

a cervical dilatation of 3-4 cms and getting pains with a frequency of 2-3 contractions every 10 minutes.

The patients were divided into three groups of 50 patients each:

Group I : No epidosin group.

Group II: Patients receiving one ampoule (8mg) of epidosin intramuscularly every half hour for 3 doses.

Group III : Patients receiving intravenous infusion of epidosin. There ampoules were added in 5% Dextrose (540 ml) and infused at the rate of 16 drops/minute.

Patients were monitored clinically, uterine contractions, dilatation of cervix, fetal heart rate and maternal vital signs were recorded at frequent intervals. The mode of delivery, duration of various stages of labour with

the outcome of delivery, and complications arising if any were recorded.

OBSERVATIONS AND RESULTS

The age distribution of the three groups was uniform, the average being 22.2 years in Group-I, 22.4 years in Group-II and 21.8 years in Group III.

The duration of gestation varied from 37 weeks to 41 weeks. No case of incoordinate uterine action was observed during or after the administration of epidosin.

Duration of first stage of labour:

The duration of the first stage of labour was very short with intravenous infusion (Mean 3.67 hr), as compared to intramuscular epidosin (Mean 4.64 hr) and control

Table I
COMPARISON OF DURATION OF FIRST STAGE OF LABOUR

Group	Range (Hours)	Mean	± S.D.
I	3.40 - 13.15	8.27	± 1.92
II	3.00 - 9.30	4.64	± 1.39
III	1.15 - 7.00	3.67	± 1.52

Table II
COMPARISON OF DURATION OF 2ND AND 3RD STAGE OF LABOUR

Group	2nd Stage			3rd Stage		
	Mean (Mts.)	±	S.D.	Mean (Mts.)	±	S.D.
I	33.45	±	11.58	4.75	±	2.02
II	32.91	±	11.97	5.41	±	2.17
III	33.42	±	13.42	4.08	±	1.97

group (Mean 8.27hr). The difference was statistically highly significant ($p < 0.001$), thereby showing that epidosin was more effective in shortening the duration of the 1st stage of labour when given by I/V infusion than by I/M route (Table-I).

The second and third stages of labour were not affected by the use of epidosin as is clear from Table-II.

Rate of cervical dilatation: In Group-I, the average rate of cervical dilatation was 0.76 cms/hour. In Group-II, the average rate of cervical dilatation was 1.37 cms/hour while in Group-III it was 1.94 cms/hour. There was statistically significant increase in rate of cervical dilatation ($p < 0.01$) following I/V infusion as compared to intramuscular epidosin.

Mode of delivery: The mode of delivery in various groups (Table-III) showed no significant difference.

No significant maternal complications were observed during the present study except for mild atonic PPH, one (2%) each in control and intravenous groups. Both the patients did not need major resuscitative measures. No significant adverse effect was observed on neonates.

Epidosin is a potent rapidly acting anticholinergic spasmolytic and musculotropic agent. It helps in cervical dilatation due to its neurotropic (atropine like) and musculotropic (papaverine like) actions. Use of intramuscular epidosin in hastening labour was supported by Kishore and Aggarwal (1962), Srivastava et al (1979), Desai et al (1984), Trivedi and Shah (1987) and Puri et al (1988). Recently Baser et al (1993) evaluated the efficacy of intravenous infusion of epidosin.

Mitra et al (1978) found I/M epidosin

to be effective in both primigravidae and multigravidae and showed that it shortened the duration of labour remarkably; no untoward maternal or fetal side effects were reported. Paranjape and Paranjape (1979) reported dryness of mouth, flushing of the face and tachycardia to be the side effects in a group of patients who were given I/M epidosin in labour.

Srivastava et al (1979) found that with the use of epidosin the duration of labour was significantly shortened by 45% in primigravidae and multigravidae.

Sarin et al (1982) found that intramuscular use of epidosin shortened the mean duration of first stage of labour in primipara by 6.21% while in multipara it was shortened by 24.52%

Baser et al (1993) have also reported a statistically significant ($p < 0.001$) shortening in duration of first stage of labour following intravenous infusion of epidosin as compared to I/M epidosin, the mean values being 3.4 and 5.3 hrs. respectively. They further concluded that I/M epidosin is likely to have unsatisfactory effect in patients who have a thick uneffaced cervix and in these patients intravenous infusion of epidosin is more useful.

The present study shows a statistically significant ($p < 0.001$) shortening in the duration of first stage of labour following intravenous infusion of epidosin as compared to I/M epidosin. There is no significant effect on the duration of 2nd and 3rd stages of labour. There is no increase in foetal or maternal side effects following intravenous epidosin as compared to I/M epidosin. The most appropriate time for administration of epidosin is after the patient is in established

labour i.e. she is getting 3 contractions every 10 minutes and the cervix is about 3 cms dilated and well effaced.

In conclusion, intravenous infusion of epidodin significantly reduces the duration of labour as compared to I/M route without significant increase in side effects for mother and baby.

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