VALETHEMATE BROMIDE AND CERVICAL DILATATION

Lt Col AD DWIVEDI *, Lt Col G RAI *,
Capt S SHARDA +

ABSTRACT

The importance of cervical dilatation in normal labour is well known & cervical dystocia is known to prolong labour adversely affecting fetomaternal well being. Valethematate bromide (Injection Epidosin) has been known to shorten the first stage of labour & several studies have proved the efficacy of this drug. Injection Epidosin was used on five hundred patients (250 Primigravida and 250 multiparas) having uncomplicated labour and its efficacy in shortening the first stage of labour was studied. This study proved that epidosin could reduce first stage of labour in primigravidas as well as multiparas significantly without any major side effects and could be used safely under supervision of a nursing staff.

MJAFI 1999; 55 : 201-202

KEY WORDS: Acceleration of labour; Effects of Epidosin on labour.

Introduction

Motherhood is one of the most important event in the life of a woman and it all matters how it is achieved. It is an established fact that prolonged labour increases risk of maternal infection, dehydration, exhaustion & ketosis. If labour is allowed to be prolonged, the happiness of becoming mother is replaced by fear and depression. The foetus is also exposed to complications like increased risk of infections, asphyxia and compression of cranial contents. To avoid prolonged labour and its ill effects, sedation, amniotomy, oxytocin and prostaglandin have been used. However use of oxytocin and prostaglandin are not without serious side effects and these cannot be used safely by nursing officers who are to monitor labour cases in service hospitals.

Epidosin (valethematate bromide) is known to shorten the first stage of labour thus avoiding or minimising cervical dystocia leading to prolonged labour. It is a potent rapidly acting cholinolytic, spasmolytic and musculotropic agent. The aim of this study was to confirm the efficacy of the drug as cervical dilator during first stage of uncomplicated labour, when used through intra muscular route. This drug was effective and very safe to be used by nursing officers supervising the labour cases and reduced the duration of first stage of labour in primigravida and multipara.

Material and Methods

Five hundred uncomplicated labour cases, including two hundred fifty primigravidas and two hundred fifty multiparas, were selected for the study from labour cases admitted in this zonal hospital between 01 Aug 96 to 31 Dec 97. A control group of one

hundred cases including fifty primigravidas and fifty multiparas was also studied. Study group (Epidosin group) was administered maximum three dosages of valethematate bromide 8 mg/ml (injection epidosin) through intramuscular route at 1/2 hr interval whereas control group was not given any drug for acceleration of labour.

Among both the group all cases were having established labour i.e. cervical dilatation approx 3 cm and three uterine contraction per 10 mts between 38 to 41 weeks of gestation with vertex presentation. Any patient having any type of antenatal or intranatal abnormality was excluded from the study.

After every dose i.e. after 1/2 hr, pelvic examination was done to assess the cervical dilatation in cms. If full dilatation was achieved or going to be achieved after second dose then third dose was not given and side effects if any were noted on partogram.

Results

Injection epidosin was administered to primigravidas (250) and multiparas (250) for shortening the first stage of labour. Majority of patients (94.6%) were having 0 to 3 parity (Table 1).

TABLE 1
Parity pattern of patients

Para	Epidosin group number	Control group number
0	250	50
1	80	18
2	94	22
3	49	8
4	27	2

Epidosin group patients completed their first stage (full dilatation of cervix) in approximately 3.15 hrs (Primigravidas) and 2.4 hrs (multiparas) whereas control group took approximately 9.3 hrs and 7.5 hrs respectively.

None of the patients in epidosin group revealed any serious side effects of the drug (Table 2). However 8.4 to 9.2% primi-

* Classified Specialist (Obstetrics & Gynaecology), + Senior Sister i/c Labour Room, Military Hospital, Ambala Cantt.

gravidas and 4.4 to 5.2% multiparas had symptoms like dryness of the mouth or transient tachycardia. Mild foetal heart rate variation 15 to 20 beats/mts were more common in primigravidas than multiparas.

TABLE 2
Side effects of epidosin group

Side effects	Primigravidas		Multiparas	
	No	%	No.	%
Transient Tachycardia	23	9.2	13	5.2
Dryness of mouth	21	8.4	11	4.4
FHR variability (15 beats/mt)	5	2	3	1.2
Nausea/vomiting	3	1.2	2	0.8

Discussion

The cervix is mostly known as playing passive role in labour to the more active body and fundus of the uterus. However nature and control of cervical function in labour is still an enigma. Disorders of cervical function can result into prolonged labour adversely affecting the fetomaternal outcome. The process of softening & ripening of cervix alongwith effacement starts at term & before start of labour favouring dilatation of cervix which progresses further with good uterine contraction. Since the time Friedman [1] recommended partography of cervical dilatation and O'Driscoll, et al [2] recommended active management of labour, there had been constant efforts to shorten the duration of first stage of labour to avoid prolonged labour and its ill effects on mother and foetus. The methods like Amniotomy, Oxytocin drip or Prostaglandin drip had been in use to shorten the course of labour but not without serious side effects making their use unsafe specially under supervision of nursing staff. Service hospitals' labour rooms most of the time are supervised by nursing officers due to specialist mostly remaining alone even at zonal hospitals. Injection epidosin as a drug to shorten the first stage of labour by achieving faster cervical dilatation has been in use since long without any serious side effect thus making it safe for use by nursing staff also.

Role of Injection Epidosin (valexthamate bromide) for achieving the shortening of first stage was studied. This drug is a group of esters with quaternary N atoms with formula $\text{CH}_3\text{CH}_2\text{CH}_3\text{-C}_2\text{H}_5\text{-COOH-CH}_2\text{-N(C}_2\text{H}_5\text{)CH}_3\text{Br}$. It is a potent rapidly acting cervi-

cal dilator by parasympathetic stimulation & muscletropic action on uterine muscles. It was used in patients with established labour without any complications. Amniotomy was done at appropriate time if spontaneous rupture of membrane did not take place.

Desai et al [3] found epidosin as an effective and safe drug taking average time of 3.12 hr for full dilatation of cervix which is in conformity to this study. Trivedi et al [4] reported shortening of first stage by 3.7 hr for Primigravidas and 3.8 hr for multiparas in comparison to control, whereas present study showed shortening by 6.15 hr in Primigravida and 5.1 hr in multiparas. They did not report any serious side effects, which was found true by present study. Only Transient tachycardia in less than 10% cases and dryness of mouth in less than 9% cases were noticed which did not require any special management and passed off with passage of time. No serious side effects like fetomaternal distress were noted. Baser et al [5] and Kaur et al [6] compared this drug for intramuscular and intravenous use and found IV route faster and more effective without any serious effects. Findings, of this study are in conformity to their findings of intramuscular group.

The labour cases in service hospitals are monitored mostly by nursing officers as gynaecologists are alone up to zonal hospitals. The use of potent drug like prostaglandin could not be safe in hands of nursing officers. Injection epidosin was found effective and very safe even under the supervision of nursing officers for achieving shortening of the first stage of labour.

REFERENCES

1. Friedman EA. The graphic analysis of labour. *Am J Obstet Gynaecol* 1954;68:1568-75.
2. O'Driscoll K, Stronge JM, Minogue M. Active management of labour. *Br Med J* 1973;3:135-7.
3. Desai SV, Deshpande V, Krishna UR. Acceleration of labour. *J Obstet Gynaecol Ind* 1984;34:657-60.
4. Trivedi HP, Shah SK. Role of valexthamate bromide in cervical dilatation. *J Obstet Gynaecol Ind* 1987;37:764-66.
5. Baser A, Desai SV, Daftary SN. Acceleration of labour by epidosin. *J Obstet Gynaecol Ind* 1993;43:217-20.
6. Kaur D, Saini AS, Daftary SN. Effect of intravenous infusion of epidosin on labour. *J Obstet Gynaecol Ind* 1995;45:708-11.