

# ROLE OF VALETHEMATE BROMIDE IN CERVICAL DILATATION

(A Study of 400 Cases)

By

TRIVEDI PRAKASH H. AND S. K. SHAM

## SUMMARY

Considering the importance of problem of cervical dystocia we tried to evaluate the role of valetamate bromide (Epidosin) in cervical dilatation and shortening of the first stage of labour.

A total of 400 patients including 200 primigravida and 200 multipara in early labour given epidosin were selected along with 100 patients consisting of 50 primigravida and 50 multipara as control were studied at the B.Y.L. Nair Hospital, Bombay. There was significantly rapid dilatation of cervix and appreciable shortening of the first stage of labour in the treated group as compared to controls (3.7 hours in primi's and 3.8 hours in multi's). The second and third stages of the labour were unaffected. There was no significant side effect to the fetus and no perinatal mortality directly related to drug usage. The incidence of operative delivery also was unaffected.

### Introduction

Cervix plays essentially a passive role as an innocent obstruction and is acted upon by all the forces of labour. Cervical dilatation is the resultant of all the driving forces of uterine contraction acting against passive tissue resistance. Thus dilatation of cervix is one of the effective end results of these forces and in this role it serves to reflect the progress of labour.

Many a times it is observed that though there are good uterine contractions, the cervix fails to dilate or dilates very slowly. This is functional cervical dystocia.

Methods that aim at minimising the incidence of functional cervical dystocia and cutting short the first stage of labour are welcome both by the obstetrician and the patient.

Considering the importance of problem of cervical dystocia we tried to evaluate role of Valetamate Bromide (Epidosin) in cervical dilatation and shortening of the first stage of labour.

### Material and Methods

Four hundred patients, 200 primigravida and 200 multipara in early labour given Epidosin were selected along with 100 patients consisting of 50 primigravida and 50 multigravida as control were

*From: B.Y.L. Nair Hospital & T.N. Medical College, Bombay.*

*Accepted for publication on 5-10-87.*

studied at the B.Y.L. Nair Hospital, Bombay.

In all groups time taken for cervical dilatation from 2-3 cms to full dilatation was studied on partograms. All cases were full term with vertex presentation. Any case with slightest deviation from normal was not included in the study.

Valethemate bromide was administered one ampoule (8 mg) intramuscularly when cervix was 2-3 cms dilated with patient in labour. The injection was repeated at hourly interval with a maximum of 3 injections.

**Results**

Regarding the age group patients were between 18-32 years, with a majority of 70% below 25 years of age in primigravida and 50% in multigravida as shown in Table I. The parity distribution is as shown in Table II.

as shown in Table III. In the control sample the average dilatation time was 12.0 hours and the range was 8-54 hours. In the epidosisin treated group the average dilatation time was 8.3 hours and the range was 3-23 hours. Thus epidosisin shortened the average dilatation time by 3.7 hours.

TABLE III  
*Time Taken for Full Dilatation of Cervix From 2-3 CMS*

Primigravida	Average dilatation time Hrs.	Range Hrs.
Control sample	12.0	8-54
Eridosisin group	8.3	3-23

The average time taken for full dilatation from 2-3 cms. in the control group of multipara was 7.3 hours with the range of 2-16 hours, whereas in the epidosisin treated group average dilatation time was 3.5 hours with a range of 2-7 hours

TABLE I  
*Age Distribution Pattern*

Age (Years)	Primigravida (200)		Multipara (200)	
	Number	Percentage	Number	Percentage
<20	24	12.0	17	8.5
20-25	116	58.0	83	41.5
26-30	53	26.5	67	33.5
>30	7	3.5	33	16.5

TABLE II  
*Parity Distribution Pattern*

Para	Number
0	200
1	33
2	68
3	56
4	34
5 or more	9

The time taken for full dilatation of cervix from 2-3 cms. in primigravida is

as shown in Table IV. Thus the average time taken for full dilatation of the cervix was shortened by 3.3 hours in multiparas.

TABLE IV  
*Time Taken for Full Dilatation of Cervix From 2-3 CMS*

Multigravida	Average dilatation time Hrs.	Range Hrs.
Control sample	7.3	2-16
Epidosisin group	3.5	2-7

The side effects associated with the use of epidisin were more in primigravida than multipara and the commonest side effects were transient tachycardia and dryness of mouth as shown in Table V.

It has papaverine like musculotropic action. It is anti-cholinergic in its action on smooth muscle of the internal organs. It relieves the spasm of the cervix due to parasympathetic over-excitement, has musculotropic action on the uterine

TABLE V

Side Effects	Number of cases		Overall Percentage
	Primi	Multi	
1. Transient Tachycardia > 100/Min.	37	25	13
2. Dryness of Mouth	19	17	9
3. FHR Variability > 15 Beats/Min.	8	8	4
4. Nausea and Vomiting	5	3	2

#### Discussion

The mechanism of the cervical dilatation during labour is still an enigma. It is well known that firm cervix of non-pregnant state softens considerably in late pregnancy and gets effaced few days before onset of labour. The process of ripening and effacement is influenced by hormones. Any method which aids in reducing the tone of the cervix will definitely favour early dilatation and accelerate labour.

Further dilatation of cervix involves stretching of the cervical musculature due to uterine contraction. The speed of cervical dilatation depends upon the uterine contraction and stretchability of the cervix. Thus incoordinate uterine action and cervical spasm both or either can prolong labour. In the present study we have tried to evaluate role of Valerianate bromide in cervical dilatation and shortening the first stage of labour.

Epidisin belong to a group of esters with a quarternary N-atom with formula —  $(\text{CH}_3-\text{CH}_2-\text{CH}_2-\text{C}_6\text{H}_5-\text{COO}-\text{CH}_2-\text{CH}_2-\text{N}(\text{C}_2\text{H}_5)_3 \text{CH}_3)$  Br. i.e. Phenyl—2 methyl—valerianic acid—diethyl—amino ethyl ester—bromomethylate.

muscle and thereby helps in dilatation of cervix (Beck, 1956). Anjaneyulu *et al* (1979) found that the drug has property to relieve the spasm of smooth muscle fibres of cervix, especially at the internal os. In our study first stage of labour was shortened by 3.7 hour in primigravida and 3.8 hours in multipara by valerianate bromide compared to controls.

Further the second and third stages of labour were unremarkable in all three groups. Not a single case of perinatal mortality or morbidity was attributed to the drug. Further the incidence of operative delivery was unaffected. Thus a simple drug with insignificant side effects can be significantly useful in shortening the first stage of labour.

#### Acknowledgement

The authors are thankful to Dr. P. M. Pai, Dean, T.N. Medical College and B.Y.L. Nair Hospital for allowing us to conduct this study.

#### References

1. Anjaneyulu, R., Dani, S. P. and Kamat, D. S.: J. Obstet. Gynec. India, 29: 557, 1979.
2. Beck, H. U.: Med. Klin. 33: 1372, 1956.