

Original Research

Drotaverine Hydrochloride versus Valethamate Bromide in augmentation of labour

¹Heena Mir, ²Saima Sadiq, ³Saba Musharaf

¹Medical Officer, Maternal and Child Care Hospital, Reasi, Jammu and Kashmir, India;

²Assistant Professor, GMC, Kathua, Jammu and Kashmir, India;

³Medical Officer, Sub District Hospital, Mendhar, Jammu and Kashmir, India

ABSTRACT:

Background: Augmentation of labour is the process of stimulating the frequency, duration, and intensity of uterine contractions after the onset of labour either by intravenous oxytocin infusion or artificial rupture of membranes, and it is used to treat prolonged labour and potentially avert caesarean section. The present study was conducted to compare Drotaverine Hydrochloride & Valethamate Bromide in augmentation of labour. **Materials & Methods:** 104 primigravida women were divided into two groups. In group I, patients were given 40 mg Drotaverine Hydrochloride IM every two hourly and in group II were given 2 ml (8 mg) Valethamate Bromide every half hourly. Parameters such as duration of second stage of labour, mode of delivery, neonatal outcome and side effects to drug was recorded. **Results:** Active phase was 3.8 hours in group I and 4.6 hours in group II, second stage was 34.5 minutes in group I and 40.2 minutes in group II and third stage was 6.2 minutes in group I and 6.5 minutes in group II. The mode of delivery was NVD in 36 in group I and 38 in group II, forcep in 6 and 4, vacuum in 5 and 6 and LSCS in 5 and 4 in group I and group II respectively. Side effects were headache in 3 and 5, hypotension in 2 and 1, tachycardia in 5 and 1 and dryness of mouth in 3 and 4 in group I and group II respectively. The difference was non-significant ($P > 0.05$). **Conclusion:** Drotaverine Hydrochloride is found to be better than Valethamate Bromide in augmentation of labour.

Key words: Drotaverine Hydrochloride, Labour, Valethamate Bromide

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Corresponding author: Saba Musharaf, Medical Officer, Sub District Hospital, Mendhar, Jammu and Kashmir, India

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INTRODUCTION

Labour is a complex physiological process characterized by painful uterine contraction which causes cervical dilation and effacement followed by delivery of fetus.¹ Both the obstetrician and labour patients would like to accomplish the delivery in the shortest possible time without compromising the mother and fetal safety.² Augmentation of labour is the process of stimulating the frequency, duration, and intensity of uterine contractions after the onset of labour either by intravenous oxytocin infusion or artificial rupture of membranes, and it is used to treat prolonged labour and potentially avert cesarean section (CS).³

This may be performed after a spontaneous onset of labour or after induction of labour. Augmentation seeks to reduce maternal and foetal adverse outcomes associated with prolonged labour.⁴ Obstetricians, early in their career, always hear the famous axiom "not to

allow the sun to set twice on a woman in labour. Various methods are available for augmentation of labour like mechanical methods, sweeping of membranes, cervical stretching and amniotomy.⁵ Pharmacological methods including oxytocin, Valethamate Bromide, scopolamine and Drotaverine Hydrochloride have been used for pain relief and shortening of labour to hasten the 1st stage of labour.⁶ The present study was conducted to compare Drotaverine Hydrochloride & Valethamate Bromide in augmentation of labour.

MATERIALS & METHODS

This study consisted of 104 primigravida women in established labour with cervical dilation 3 cm or more. The approval from institutional ethical committee and written consent from all females was obtained. Demographic data was recorded. Patients were divided into two groups. In group I, patients were

given 40 mg Drotaverine Hydrochloride IM every two hourly and maximum of 3 doses if necessary and in group II were given 2 ml (8 mg) Valethamate Bromide every half hourly upto maximum 3 doses at cervical dilation 3-4 cm and stopped at 7 cm or more. Vaginal examination was done to note the cervical dilation and effacement, station of head, membrane

status and adequacy of pelvis. Vaginal examination was done every 4 hourly to assess the progress of labour. Parameters such as duration of second stage of labour, mode of delivery, neonatal outcome and side effects to drug was recorded. Results were recorded in both groups. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Groups	Group I	Group II
Dose	40 mg Drotaverine Hydrochloride IM	8 mg Valethamate Bromide
Number	52	52

Table I shows that group I were given 40 mg Drotaverine Hydrochloride IM and group II were given 8 mg Valethamate Bromide.

Table II Duration of active phase of 1st stage of labour

Duration of labour	Group I	Group II	P value
Active phase (Hours)	3.8	4.6	0.05
Second stage (minutes)	34.5	40.2	0.04
Third Stage (minutes)	6.2	6.5	0.91

Table II, graph I shows that active phase was 3.8 hours in group I and 4.6 hours in group II, second stage was 34.5 minutes in group I and 40.2 minutes in group II and third stage was 6.2 minutes in group I and 6.5 minutes in group II. The difference was non- significant (P> 0.05).

Graph I Duration of active phase of 1st stage of labour

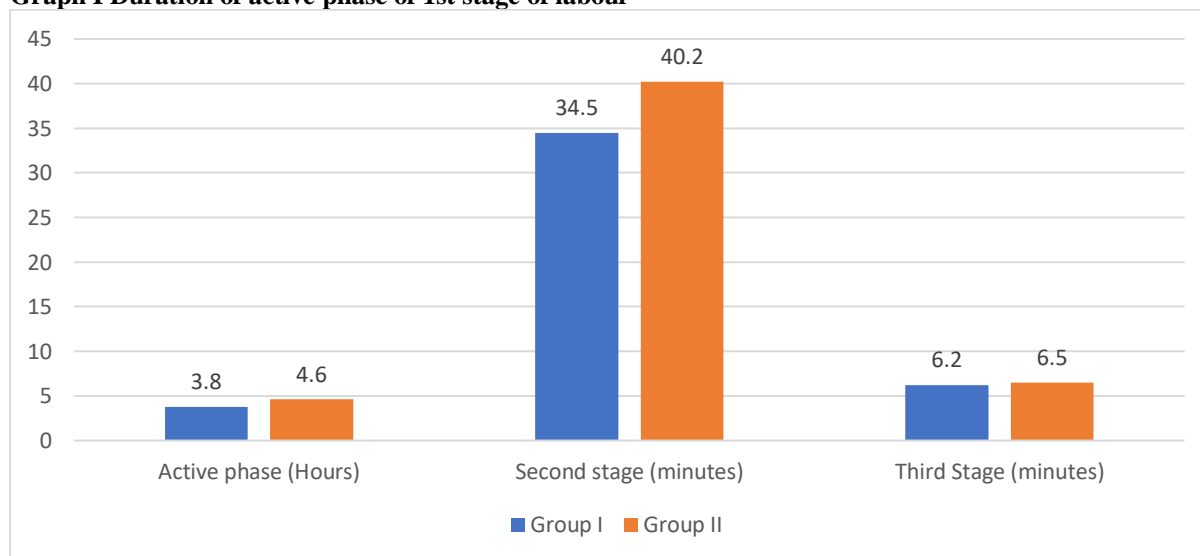
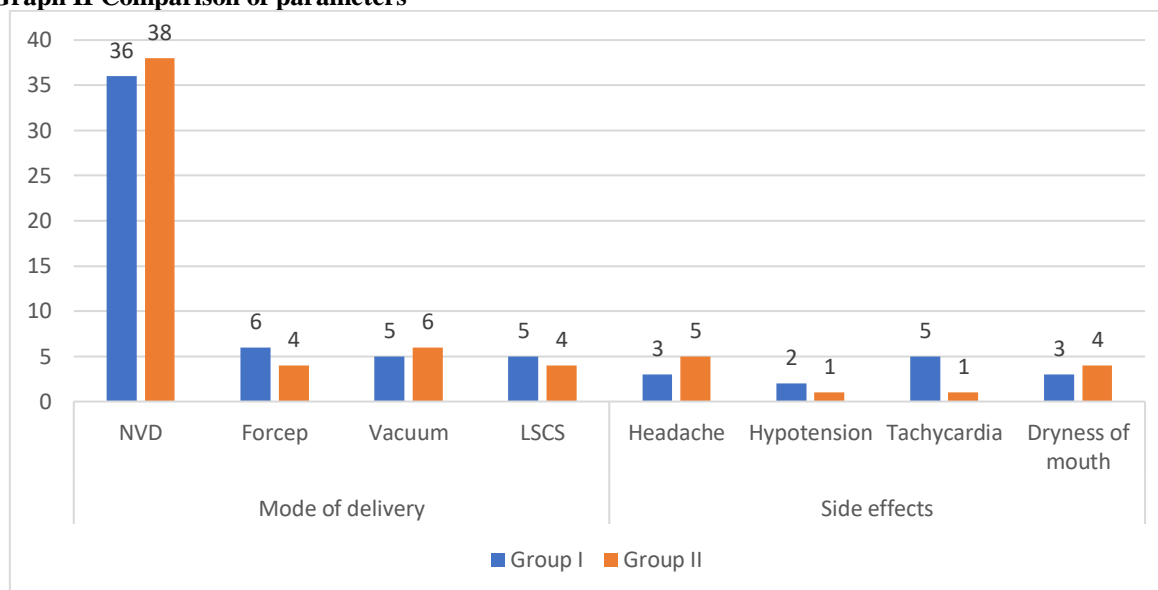


Table III Comparison of parameters

Parameters	Variables	Group I	Group II	P value
Mode of delivery	NVD	36	38	0.18
	Forcep	6	4	
	Vacuum	5	6	
	LSCS	5	4	
Side effects	Headache	3	5	0.21
	Hypotension	2	1	
	Tachycardia	5	1	
	Dryness of mouth	3	4	

Table III, graph II shows that mode of delivery was NVD in 36 in group I and 38 in group II, forcep in 6 and 4, vacuum in 5 and 6 and LSCS in 5 and 4 in group I and group II respectively. Side effects were headache in 3 and 5, hypotension in 2 and 1, tachycardia in 5 and 1 and dryness of mouth in 3 and 4 in group I and group II respectively. The difference was non- significant (P> 0.05).

Graph II Comparison of parameters



DISCUSSION

The diagnosis of active labour depends on careful assessment of regular uterine contractions with progressive cervical effacement and dilatation.⁷ This diagnosis is difficult, with many different patterns according to parity and the individual woman. The diagnosis of labour is probably more challenging in multiparous women.⁸ Sometimes, the cervix is few centimetres dilated by the end of pregnancy, without significant contractions and before effacement of the cervix. This condition may be present days or even weeks before the onset of labour. In average, labour is shorter than in primiparous women, once regular contractions are established.⁹ The care provider should be prudent in the decision to admit multiparous women to the labour ward (to avoid a cascade of interventions including induction or augmentation of labour in case of false positive) or to send women home, with a possibly stressful or unsafe “out of hospital” birth as a consequence.¹⁰ The present study was conducted to compare Drotaverine Hydrochloride & Valethamate Bromide in augmentation of labour.

In present study, group I were given 40 mg Drotaverine Hydrochloride IM and group II were given 8 mg Valethamate Bromide. Praksah et al¹¹ in their study total of 100 primigravida patients in second stage of labour were divided into two groups randomly with 50 patients in each. After a detailed history and examination group A women were given injection drotaverine IM every two hours for maximum of 03 doses and group B were given valethamate bromide 8 mg with maximum of 3 doses half hourly apart. Various parameters of duration of labour, mode of delivery, maternal & fetal complications were compared in both groups. Injection to delivery interval were significantly reduced in group A compared to group B. The rate of cervical dilation was more in drotaverine group than Valethamate bromide group. There was no major side

effects in any group but minor side effects like tachycardia and nausea were more common in Valethamate Bromide group than drotaverine group.

We found that active phase was 3.8 hours in group I and 4.6 hours in group II, second stage was 34.5 minutes in group I and 40.2 minutes in group II and third stage was 6.2 minutes in group I and 6.5 minutes in group II. Litorp et al¹² in their study found that the total cohort consisted of 78 931 women, of whom 28 915 (37%) had labor augmented with oxytocin and 50 016 (63%) did not have labor augmented with oxytocin. Women with augmentation of labor had no increased risk of intrapartum stillbirth and first-day mortality, but decreased risks of suboptimal partograph use, suboptimal fetal heart rate monitoring and emergency cesarean section and increased risks of bag-and-mask ventilation. Apgar score <7 at 5 minutes, and neonatal death.

We observed that mode of delivery was NVD in 36 in group I and 38 in group II, forcep in 6 and 4, vacuum in 5 and 6 and LSCS in 5 and 4 in group I and group II respectively. Side effects were headache in 3 and 5, hypotension in 2 and 1, tachycardia in 5 and 1 and dryness of mouth in 3 and 4 in group I and group II respectively. The duration of the latent phase of labour varies widely and is a period when the diagnosis of labour can be challenging.¹³ Women may have painful contractions for long periods in the latent phase with little cervical change. The management of the latent phase, once maternal and foetal well-being has been confirmed, consists of explanation, reassurance and ambulation. Assessment and reassurance in the latent phase of labour, as compared to immediate admission, does not have a clear impact on the rate of caesarean section.¹⁴ However, evidence suggested that interventions may have an impact on reducing the use of epidural anaesthesia, labour augmentation and increasing maternal satisfaction with giving birth.

CONCLUSION

Authors found that drotaverine hydrochloride is found to be better than valethamate bromide in augmentation of labour.

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