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Original Research

Evaluation of outcome of different concentration of Hyoscine Butylbromide on labor

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ABSTRACT:

Background: Hyoscine butyl bromide (Buscopan) is being used as an agent for reducing the duration of labour. There are however conflicting results on the effect of this agent on cervical dilation. The present study was conducted to compare effect of different concentration of Hyoscine Butylbromide on labor. **Materials & Methods:** The present study was conducted 60 prim gravid women with term gestation. All were divided into 2 groups of 30 each. In group I 40 mg of intravenous HBB in the early active phase of labor was given and in group II 60 mg of intravenous HBB was given. **Results:** Each group had 30 patients each. Group I patients were given 40 mg of intravenous HBB and group II received 60 mg of intravenous HBB. The mode of delivery in group I was abdominal seen in 10 and 8 in group II. It was vaginal seen 20 in group I and 22 in group II. The difference was non-significant (P> 0.05). APGAR score at 1st minute in group I was 8.2 and in group II was 8.4, APGAR score at 5th minute in group I was 8.4 and in group II was 8.6. Estimated blood loss in group I was 320 ml and in group II was 350 ml, injection to delivery time in group I was 322 minutes and in group II was 312 minutes, rupture of membranes to delivery was 104 minutes in group I and 120 minutes in group II. The difference was non-significant (P> 0.05). **Conclusion:** Authors found 40mg HBB and 60 mg HBB found to be efficacious at both concentrations. There was no significant difference in their outcome. **Key words:** Prolonged Labour, Hyoscine Butyl Bromide, Mother

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INTRODUCTION

Prolonged labour and its attendant complications contribute immensely to the high maternal morbidity and mortality recorded in the developing countries. Although there is a wide variation in the duration of labour, it has been found that there is an acceptable period that is considered normal. The range for the duration of normal labour is from 3 to 12 hours. Labour lasting less than 3 hours is classified as precipitate labour while that exceeding 12 hours is said to be prolonged. The two major factors that determine duration of labor are uterine contractility and rate of cervical dilation.^{1,2} In addition to mechanical factors such as sweeping of membranes, cervical stretching and amniotomy, various pharmacological agents have been found to facilitate cervical dilation. The role of oxytocin and prostaglandins has been established worldwide in

augmentation of labor and the cervical application of hyaluronidase has also been used with some success.³

Labor usually starts within 2 weeks of (before or after) the estimated date of delivery. Exactly what causes labor to start is unknown. On average, labor lasts 12 to 18 hours in a woman's first pregnancy and tends to be shorter, averaging 6 to 8 hours, in subsequent pregnancies. Every woman's labor is different.⁴

HBB is an alkaloid that acts by inhibiting cholinergic transmission in the abdominal and pelvic parasympathetic ganglia. Through this it relieves spasm in the smooth muscles of the female genital organs, aiding cervical dilatation. ⁵ The present study was conducted to compare effect of different concentration of Hyoscine Butylbromide on labor.

MATERIALS & METHODS

The present study was conducted in the department of Obstetrics & Gynaecology. It comprised of 60 prim gravid women with term gestation. Ethical approval was obtained from institute prior to the study. All were informed regarding the study and written consent was obtained.

Data such as name, age etc. was recorded. All were divided into 2 groups of 30 each. In group I 40 mg of

RESULTS Table 1: Distribution of patients

n of patients

 Groups
 Group I (40 mg HBB)
 Group II (60 mg HBB)

 Number
 30
 30

Table I shows that each group had 30 patients each. Group I patients were given 40 mg of intra-venous HBB and group II received 60 mg of intra-venous HBB.

Table 2: Mode of delivery

Mode	Group I	Group II	P value
Vaginal	20	22	0.21
Abdominal	10	8	

Table 2 shows that mode of delivery in group I was abdominal seen in 10 and 8 in group II. It was vaginal seen 20 in group I and 22 in group II. The difference was non- significant (P > 0.05).

Table 3: Comparison of parameters

Parameters	Group I	Group II
APGAR score at 1st minute	8.2	8.4
APGAR score at 5 th minute	8.4	8.6
Estimated blood loss (ml)	320	350
Injection to Delivery time (mins)	322	312
Rupture of membranes to Delivery (mins)	104	120

Table 3 shows that APGAR score at 1st minute in group I was 8.2 and in group II was 8.4, APGAR score at 5th minute in group I was 8.4 and in group II was 8.6. Estimated blood loss in group I was 320 ml and in group II was 350 ml, injection to delivery time in group I was 322 minutes and in group II was 312 minutes, rupture of membranes to delivery was 104 minutes in group I and 120 minutes in group II. The difference was non-significant (P > 0.05).

DISCUSSION

The goal of obstetrics has always been a pregnancy which results in a healthy infant and minimally traumatized mother. The problems of prolonged labour are many. A painless and short duration is a cherished dream of every mother. There has been growing attempt to shorten labour time since the process of labour puts great strain on the mother and her fetus. These includes; active management of labour, sweeping of membranes, cervical stretching and amniotomy.^{6,7} After intravenous administration, the substance is rapidly distributed (t1/2=29 minutes)into the tissues. Hyoscine butylbromide does not pass the blood-brain barrier, and plasma protein binding is low; approximately half of the clearance is renal, and the main metabolites found in urine bind have no significant clinical action.8 The present study was to compare effect of different conducted concentration of Hyoscine Butylbromide on labor.

In this study, each group had 30 patients each. Group I patients were given 40 mg of intra-venous HBB and group II received 60 mg of intra-venous HBB. Singh et al⁹ conducted a prospective study on 120 women

with term gestation; in active labor. The patients were chosen by simple randomization and were divided into 3 groups- A, B and C respectively of 40 patients each. Group A received intramuscular injection drotaverine hydrochloride one ampule (40 mg), group received intramuscular injection hyoscine B butylbromide (20 mg) and group C which was control group, received no drug. The mean rate of cervical dilatation with buscopan was 2.23cm/hr while it was 2.03cm/hr and 2.08cm/hr in drotaverine group and control group respectively. Thus the drug delivery interval was less in buscopan group. Mean duration of active phase of first stage of labor was 156.13 minutes in buscopan group against 181.25 minutes in drotaverine group though buscopan was found to have less effect on duration of second stage of labor.

We found that mode of delivery in group I was abdominal seen in 10 and 8 in group II. It was vaginal seen 20 in group I and 22 in group II. Wanjala et al¹⁰ conducted a study in which a total of 114 primigravid women were recruited into the study and randomized into the control arm (n=59) and study arm (n=55). The 40mg and 60mg arms were comparable for socio-

intra-venous HBB in the early active phase of labor was given and in group II 60 mg of intra-venous HBB was given. In both groups, gestational age, APGAR score at 1st minute, 5th minute, blood loss, mode of delivery etc. was compared. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

demographic and obstetric characteristics. Injection to delivery time was 340 (223–483) minutes in the 40mg arm and 305 (253–475) minutes in the 60mg arm, a difference that is not statistically significant (p=0.905). Seven (12 %) and five (9 %) of patients in the 40mg and 60mg arm respectively needed delivery via caesarean section (p=0.602). 5 minute APGAR scores were 9.7 in the 40mg arm and 9.8 in the 60mg arm. Estimated blood loss was 300mls in the 60mg arm and 350mls in the 40mg arm (p=0.152). Head to head, 60mg of parenteral HBB is not superior to 40mg on their effects on duration of labor and fetomaternal outcomes.

We found that APGAR score at 1st minute in group I was 8.2 and in group II was 8.4, APGAR score at 5th minute in group I was 8.4 and in group II was 8.6. Estimated blood loss in group I was 320 ml and in group II was 350 ml, injection to delivery time in group I was 322 minutes and in group II was 312 minutes, rupture of membranes to delivery was 104 minutes in group I and 120 minutes in group II. The difference was non-significant (P> 0.05).

Studies by Samuels et al. and Mukaindo et al., also recorded similar findings in the mater no-fetal outcomes.^{11,12}

CONCLUSION

Authors found 40mg HBB and 60 mg HBB found to be efficacious at both concentrations. There was no significant difference in their outcome. There were no associated adverse feto-maternal outcomes.

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