

# ACCELERATION OF LABOUR INTRAMUSCULAR "BUSCOPAN" INJECTION

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## SUMMARY

"Buscopan" was used in 100 cases of primigravidae another 100 cases of primigravidae acting as control. This was given in 1st stage of labour. Buscopan is parasympatholytic agent and shortens the 1st stage of labour by accelerating the cervical dilatation. Mean labour time in Buscopan was five hours and thirteen minutes, where as in control group it was eight hours and fifty three minutes. Buscopan should be tried for cervical dystocia before entertaining caesarean section, as it has special action on rigid cervix. It has no adverse action on new borns and the side effects on mothers are also not serious.

### *Introduction*

The stages of labour are the most dynamic one and require very careful observations. The perception of pain to a great extent depends on duration of labour. So any method which shortens the duration of labour without any complication is always welcomed by patient as well as by Obstetrician. Prolonged labour due to delayed or arrested cervical dilatation forms the most important group which is still not fully investigated. Vagotonic states lead to increased tension at cervix and lower uterine segment. This fact leads to the use of parasympatholytic agents in such condition. One more fact which directed the attention of people towards parasympa-

tholytic agents is because of their probable pain relieving effect. Buscopan Hyosine M-butyl bormide fulfilled the above two criterias and was tried in primigravida where the first stage of labour is always of longer duration.

### *Material and Method*

The cases were selected at random from the patients admitted in the labour room for confinement in Government Medical College, Nagpur. Two hundred Primigravidae were selected out of which 100 were given Buscopan and 100 acted as control. The full term with vertex presentation without any clinical cephalopelvic disproportion cases were selected for study. Five cases had mild toxæmia. Routine investigations like Hb%, urine for albumin and sugar and blood groupings and Rh typing were done.

All patients had thorough general and

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systemic examination in the labour room before including them in trial. With all aseptic precautions vaginal examination was done and those cases with cervical dilatation of 2-3 cms, vertex at -1 cm, station associated with moderate uterine contractions were selected for injection of 20 mg of Buscopan intramuscularly. This was the starting point for comparing the length of labour since the exact time of full dilatation of cervix was very difficult to determine, the time of delivery was taken as the end point of observation. Thus the injection delivery interval was noted. It was necessary to give in all patients injection Pethedine 50 mg and Phenargan 25 mg intramuscularly. In those cases where there was hypotonic uterine insertion were given I.V. Pitocin drip 1 unit in 540 ml of glucose 20-30 drops per minute. All patients were delivered after right mediolateral episiotomy as all were Primigravidae which is routine in this department. Injection Methergin was not given in II stage of labour to know the effect of this drug on this stage. Patients were followed up in lying in period to note the effect of the drug on involution of the uterus. To know the effect of Buscopan in specific age group the patients were divided in 3 groups.

Group A—Cases below 20 years	— 60
Group B—Cases between 21-25 years	— 30
Group C—Cases above 25 years	— 10

Injection—delivery interval was taken as the duration of cervical dilatation. Membranes were preserved as far as possible in all cases.

TABLE I  
Number of Cases Delivered During Specific Interval in Buscopan and Control Series

	Injection delivery interval (Duration of Cervical dilatation)		
	Less than 4 hours	4-8 hrs.	8 hrs. and more
Buscopan	29	52	19
Control	8	33	59

Mean labour time in Buscopan was 5 hours—13 minutes. Mean labour time in control was 8 hours—53 minutes. Total patients delivered at the end of 8 hours were 81% in Buscopan series where as only 41% delivered at the end of 8 hours in control series. 59% cases in control series took more than 8 hours to delivery; while in Buscopan series only 19% cases took more than 8 hours.

TABLE II  
Percentage of Cases Delivered Before 8 hours in both Series Considering the Different Age Groups

	Percentage of cases delivered before 8 hours	
	Buscopan	Control
1. Group A (Below 20 years)	78.4%	43.3%
2. Group B (Between 21-25 years)	86.6%	40%
3. Group C (Above 25 years)	80%	30%

In control series with advancing age the number of cases delivered before 8 hours was declining where as in Buscopan series the number was increasing.

In 3 cases in this series Buscopan was given to the patients who already had received epidosis and Pitocin drip. These patients were of prolonged labour due to cervical dystocia and were provisionally prepared for caesarean section. The per vaginal examination findings of the first 2 cases were—cervix 4 cms dilated, 75% effaced, head was at -1 cm station, membranes were absent, caput 2 x 2 cms was present but moulding was absent. They had received epidosis 3 hours back and were getting pitocin drip for 12 hours. Both the cases showed signs of maternal exhaustion. The progress of cervical dilatation was arrested from 3 hours. When Buscopan was given to them both the patients showed rapid progress in cervical dilatation and they delivered—within 2 hours. The third case was referred to Medical College Hospital, Nagpur with signs of prolonged labour and maternal exhaustion. Foetal heart sounds were absent and per vaginal examination findings were same as above with good uterine contractions. Patient was given epidosis and pitocin drip and progress was observed for 2 hours. The cervical dilatation after 2 hours remained the same so Buscopan was tried and patient delivered after 1½ hours. In these cases caesarean could be avoided.

TABLE III

*Mode of Delivery in Buscopan and Control Series*

Mode of delivery	Buscopan	Control
Vaginal	90	88
Low forceps	6	6
Caesarean section	4	6

Number of forceps delivery in both the groups were same and so also the indications for forceps. The indications for caesarean were shows in Table IV.

TABLE IV  
*Indication for Caesarean Section*

Indication	Buscopan	Control
1. Foetal distress	2	3
2. Deep transverse arrest	1	0
3. Cervical dystocia	1	3

Three cases of cervical dystocia was seen in control series as compared to only one in Buscopan. In this case cervix did not dilate beyond 4 cms. Epidosis and pitocin drip were given but dilatation did not progress inspite of good uterine contractions. There was no evidence of cervical fibrosis or history suggestive of any cervical infection.

Though the exact amount of pain experienced by patient could not be measured the patients of Buscopan series appeared more comfortable during labour than control series.

In 93 cases the uterine contractions improved in frequency and duration after Buscopan. In 7 cases uterine contractions required stimulation with pitocin drip.

In both the groups placenta was expelled immediately and completely. Incidence of post partum haemorrhage was equal in both the groups i.e. 3%. But the causative factors were different. In control series 2 cases had cervical tear and one atonic uterus, whereas in Buscopan 2 cases had vaginal lacerations and tear and 1 atonic uterus.

No adverse effect on new born or in the puerperal period was noted.

The side effects noted were:

(1) 5% complained of dryness of mouth after  $\frac{1}{2}$  hour of Buscopan injection.

(2) 15% showed increase in pulse rate by 10-20 beats/minutes after 30-60 minutes of Buscopan administration.

(3) 14% showed fall in systolic B.P. by 10 m.m. of H.G.

#### Discussion

Quick cervical dilatation and shortening of labour by 2-3 hours were noted by various workers (Richter 1953, Schirmacher 1955; Blanz 1957; Eydam 1958; Brasco and Massar 1960; Hector Mario Baracho 1984). When Buscopan 20 mg was given at 2-3 cms dilatation of the cervix by intramuscular route, mean reduction in labour time was 3 hours 10 minutes to 5 hours 20 minutes, with 92.8% to 80% delivering 4 to 8 hours time. In the present series 81% delivered in 8 hours and mean reduction in labour time was 3 hours 40 minutes. Ritcher (1953) observed best results in age group from 25 to 30 years and above. Similar was the observation in the present series. Response was better in patients above 25 years of age. Crossen (1953) used Buscopan suppository in 37 cases of cervical dystoia and found that in 30 cases three was prompt relaxation of cervical os and further progress in labour was facilitated. In present series 3 cases of cervical dystocia delivered normally thus avoiding caesarean section. In one case of Buscopan trial who ended

up in caesarean section for cervical dystocia must be due to individual variation of response of the nervous system to the ganglion blocking agents.

It appears that Buscopan is an effective cervical dilator in all primigravidae. It is specially useful in spastic cervix due to autonomic imbalance, when given at proper time with good uterine contractions with minimal side effect. There is no adverse action on new born or on the puerperium.

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