# The use of Hyoscine N-Butylbromide to Facilitate the Dilatation of the Cervix Uteri in Normal Labour

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Hyoscine N-butylbromide (trade name Buscopan) is a ganglion blocking agent acting chiefly on vagal ganglia, but also to some extent on sympathetic ganglia. Clinical trials have shown that it is a drug with a very wide margin of safety, and that it produces a minimum of undesirable side effects. It seemed possible on theoretical grounds that the drug might aid relaxation of the cervix during labour.

Trials of Buscopan in labour have been carried out by H. Schirmacher (1952), and E. Leuxner and J. Thomas (1952). Both these trials seem to show that the administration of Buscopan result in a considerable shortening of the first stage of labour. It seemed worth while to do a further trial as a drug of this type would be valuable to obstetricians.

## Method

Every patient included in this trial was examined vaginally early in labour. If she was found to be 2—3 cms. dilated then Gm.0.02 Buscopan was given intramuscularly immediately. Records of the maternal pulse rate, foetal heart beat, strength and frequency of uterine contractions, and the length of the various stages of labour were kept.

Any case developing a gross abnormality of labour was excluded from the series. In all cases nitrous oxide and air or trilene analgesia was used in second stage of labour. Pethidine was given where necessary in first stage of labour.

## Material

Cases for inclusion in this trial were selected from normal cases admitted to Plaistow Maternity Hospital. The patients admitted to half the beds on each floor were considered for trial of Buscopan, and those to the other half of the floor provided control cases.

Only when routine vaginal examination showed a suitable degree of dilatation of cervix was the case admitted to the trial. In order to avoid making extra vaginal examinations, cases were not included in the trial if the routine examination showed them to be too early in labour or that labour had advanced too far.

Trail cases and controls were matched as far as possible for parity, age, and date of labour.

TABLE OF CASES

| | *Primipara* | | *Multipara* | |
|---|---|---|---|---|
| | *Control* | *Buscopan* | *Control* | *Buscopan* |
| Number of cases .. | 25 | 25 | 13 | 14 |
| Average age in years .. | 23.2 | 25.5 | 37.3 | 35.0 |
| Parity Average .. .. | | | 2.8 | 1.8 |
| Period of gestation in weeks .. .. .. | 39.8 | 40.1 | 39.8 | 40.0 |
| Birth weight in lbs., ozs. | 7.2 | 6.15 | 7.10 | 6.12 |
| *Duration of Labour* in Hrs., Mins. | | | | |
| First stage .. .. | 12.53 | 15.44 | 7.00 | 7.39 |
| Second stage .. .. | 0.58 | 0.59 | 0.16 | 0.21 |
| 2—3 cms. dilated to fully dilated .. .. | 4.57 | 6.07 | 3.18 | 2.49 |
| Total length of labour | 13.48 | 19.05 | 9.13 | 7.35 |

## Discussion

On this small series of cases, it did not seem likely that one would obtain results that were statistically significant. The very wide scatter shown by the figures made a significant result even more unlikely. The wide scatter may be exemplified by the figure for the duration of labour (first stage) in control group of primipara. Average length 12 hrs. 53 mins., maximum length 31 hrs. 40 mins., and minimum 4 hrs. 5 mins.

Statistical analysis of these figures does not show that, under the conditions of the trial, Buscopan either accelerates or retards the first stage of labour.

Side effects from the administration of Gm.0.02 of Buscopan by intramuscular or subcutaneous injection were not found. Uterine contractions were not diminished in frequency or strength. Maternal pulse rate was not accelerated, and B.P. was not affected. The foetal heart beat was not altered either in rate or rhythm.

## Summary

The administration of Gm.0.02 of Buscopan by subcutaneous injection during the early stages of normal labour was not shown to have any effect on the duration of labour and in particular on the first stage of labour.

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