PALEROL AS AN ANALGESIC DURING LABOUR

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Relief of pain during labour has been an age old problem. Even the most primitive man must have struggled in his own humble way to relieve the suffering of his female folk. Soothing, sympathetic and kind words must certainly have constituted the first ever attempts to lighten the distress of a woman in labour. Let us not forget that they are still supreme and indispensable. Administration of intoxicant and sedative potions was, perhaps, the next means employed. In any case, the first important mile-stone on the road to relief of pain during labour was the use of ether for an obstetric operation by Simpson on 19th January 1847. He soon employed ether for mitigating labour pains during normal delivery and before the end of the year was successfully experimenting with chloroform. Although a storm of vehement opposition was raised by the Church and the moralists on the desirability of ridding childbirth of suffering, it was quietened when Queen Victoria made it fashionable to receive anaesthesia during labour.

It was soon obvious that neither ether nor chloroform was ideal analgesic during labour. Attention was now focussed towards achieving better means of relieving labour pains. But, despite the efforts of the last 100 years and over an ideal obstetric analgesic is still not in sight. Over these years, almost every known anaesthetic, sedative, hypnotic, analgesic, antispasmodic, tranquiliser and what not to mention combinations of different drugs, hypnosis, Read's indoctrination and education in muscle relaxation have all been tried with the hope of realising pain-free labour without having to pay any price for it. Most of these did offer good pain relief but invariably carried one or other of the many disadvantages like toxicity to the mother, inhibition of uterine action with resultant prolonged labours, operative deliveries and postpartum haemorrhages, foetal asphyxia, hang-over effects, lack of easy administration etc. etc. No wonder the search for an ideal analgesic is still on. This justifies the trying out of any new drug that promises some hope.

Our experience with Palerol (Sandoz Ltd., Basle, Switzerland) as an analgesic during labour is presented here.

Pharmacology of Palerol

Palerol contains 3 substances namely, Tropenzilium, Piperylon and sodium phenyl-dimethyl-pyrazolone-

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methylamino-methane sulphonate. Tropenzilium is a neurotropic spasmolytic. It exerts a spasmolytic effect on the smooth musculature of the viscera without producing general vagal blockade. Piperylon is an analgesic with an additional spasmolytic effect. Tropenzilium and Piperylon together exert a stronger spasmolytic effect than tropenzilium alone. An increase in the analgesic effect of piperylon by sodium phenyl-dimethyl - pyrazolone - methylamino - methane sulphonate was also demonstrated in animal studies by Taeschler et al. Each ampoule of 5 c.c. of Palerol contains 10 mg. Tropenzilium bromide, 200 mg. piperylon and 2 gm. sodium phenyl-dimethyl - pyrazolone - methylamino - methane sulphonate.

Material and Method

To evaluate the effectiveness of Palerol as an obstetric analgesic 175 primiparous patients were studied at random. All the patients chosen were full-term, had a normal pelvis and a well engaged head with the cervix completely taken up and 3 cm. dilated. No complications were anticipated during the course of labour in any of them. The age of the patients ranged between 17 and 25 years.

The patients were divided into 3 groups—i) Palerol group—60 cases ii) Pethidine group—55 cases and iii) No drug group—60 cases. The patients in the no drug group were not given any drug for analgesia because they were comfortable during labour and hence can be compared with the patients in the other groups only in some respects. There was no selection of patients between palerol and pethidine groups. No adjuvant drugs were given as analgesic to any of the cases.

To study the effect on foetal respiration, palerol was administered to 15 more patients irrespective of their parity. In these cases the drug was given about 30 minutes prior to the birth of the baby and the babies were evaluated for respiratory depression using Apgar's criteria.

Palerol can be given orally, intramuscularly and intravenously. In this study the drug was given intramuscularly in the dose of 5 c.c., only once at 3 cm. dilatation. Patients in pethidine group received 100 mg. intramuscularly once at 3 cm. dilatation.

The patients were studied for the degree of pain relief and sedation, duration of first stage after the administration of drug, duration of second and third stages and blood loss during the third stage. Narcosis and respiratory distress in the newborn was also recorded.

Relief of Pain

Effective analgesia was obtained in most of the patients within 20 to 30 minutes of the injection of either palerol or pethidine. But patients were far more comfortable and very much less restless during the contractions in the palerol group as compared with the pethidine group. In fact, patients in the palerol group were so comfortable even during uterine contractions that sisters in charge of the labour ward often refused to believe that the patients were in active labour and sometimes tried to shift the patients out of the labour ward to the waiting wards.

TABLE I

Time Interval between 3cm. and Full Dilatation

Time interval	Palerol group	Pethidine group	No drug group
Less than 3 hours	8	6	6
3-4 hours	14	10	3
4-5 hours	8	7	7
5-6 hours	6	5	6
6-7 hours	5	6	10
7-8 hours	4	6	8
More than 8 hours	15	15	20
Total	60	55	60

Duration of First Stage after 3 cm. Dilatation

Time interval between 3 cm. dilatation and full dilatation of the cervix is given in Table I. When no drug was given, only 36.6 per cent of the cases proceeded from 3 cm. to full dilatation within 6 hours. As against this 60 per cent in the palerol group and 50.9 per cent in the pethidine group proceeded to full dilatation within 6 hours. Thus as far as quickening the cervical dilatation and shortening of the first stage is concerned both palerol and pethidine were found to be effective, the former more so.

Effect on Uterine Contractions

Table II gives the duration of the second stage. In the palerol group 55 out of 60, or 91.6 per cent, had the second stage of 2 hours or less. In the pethidine group 44 out of 55, or 80 per cent had their second stage lasting 2 hours or less. In the no drug group 47 out of 60, or 78.3 per cent, had the second stage of 2 hours or less. Thus, palerol has no adverse effect on the duration of the second stage. One may say that palerol does not inhibit uterine activity. When only those cases who received the drugs within 6 hours of the onset of second stage were considered it was

TABLE II

Duration of Second Stage

Duration of 2nd stage	Palerol group	Pethidine group	No drug group
½ to 1 hour	26	19	16
1 to 1½ hours	22	16	17
1½ to 2 hours	7	9	14
2 to 2½ hours	4	7	6
2½ to 3 hours	1	4	7
Total	60	55	60

found that the duration of the second stage was not adversly affected by either of the drugs. There were four forceps deliveries in palerol group and 3 each in the pethidine and no drug groups. All were low-forceps operations. There were no other operative deliveries in the series. Thus palerol does not lead to increase in the incidence of operative deliveries.

TABLE III

Duration of Third Stage

Duration of 3rd stage in minutes	Palerol group	Pethidine group	No drug group
5-10	44	43	44
11-15	14	11	15
21-30	2	1	1
Total	60	55	60

Third Stage of Labour

Table III gives the duration of the third stage. There is no difference in the duration of the third stage in the 3 groups. There were 2 cases of mild postpartum haemorrhage in the series, 1 in the palerol group and 1 in the pethidine group. Prophylactic methergin was not given to any patient in the series. There were no other complications in the third stage. Palerol has no adverse effects on the third stage of labour.

Side Effects on Mother

Two patients in the pethidine group had nausea and vomiting after the drug was administered. Patients in the palerol group had no side-effects.

Effects on Newborn

To evaluate the effect on the newborn, palerol was administered to 15 patients, irrespective of their parity, about 30 minutes prior to spontaneous normal delivery. Immediately after birth the babies were evaluated for respiratory depression; 14 babies had no respiratory depression at all and were perfectly normal at birth. The remaining 1 baby had respiratory depression, was cyanosed at birth and needed resuscitation. It may be added that none of the babies, in the 60 cases in the palerol group of primiparas, showed respiratory depression attributable to palerol. For all practical purposes palerol causes no respiratory depression in the newborn.

Discussion

Pethidine, either alone or in combination with other drugs like largactil, meprobamate, scopolamine etc., is perhaps the most widely employed obstetric analgesic. Pethidine has, therefore, been used here as a yardstick while evaluating the performance of palerol. Pethidine's popularity, no doubt, suggests that it is quite effective as an analgesic during labour. Its greatest single drawback is the respiratory depression of the newborn caused by it. The main purpose in the use of the various drugs in combination with pethidine is the

desire to reduce the total amount of pethidine required during labour so as to minimize the respiratory depression of the newborn. However, this does not appear to be the sole aim. For, were it so, the combination of nalorphine with pethidine should have proved to be the last word in obstetric analgesia.

An equally important desire in employing largactil or meprobamate along with pethidine is to obtain better analgesic effect than what pethidine alone can give. The emphatic statements of the different writers that combinations of pethidine and largactil or pethidine and meprobamate give better pain relief than pethidine alone prove the point.

We find that palerol can give much better pain relief during labour than pethidine. The comfort of the patient in labour after the administration of palerol has got to be seen to be believed. While under pethidine the patients are comfortable in between the contractions they show off their chagrin during uterine contractions. Under the effect of palerol the patients are comfortable and quiet even during uterine contractions.

The lack of any harmful effects on the foetus is a positive superiority of palerol over pethidine. It is a great relief to be sure that the analgesic used during labour is not going to depress foetal respiration.

Palerol is also free from any inhibiting effect on the uterine action. Its use is also not embarassed by any side-effects on the mother.

Thus palerol appears to be a very promising obstetric analgesic. It deserves extensive trials during labour.

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Reference

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