MODERN MANAGEMENT OF III STAGE OF LABOUR

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SUMMARY

Haemorrhage is a leading cause of maternal morbidity and mortality in India. Over 60% of such deaths are due to atonic post-partum haemorrhage. A clinical evaluation and comparison of the three commonly available oxytocics, namely methylergometrine, oxytocin and prostaglandin F2 in three groups of 30 patients each was undertaken to evaluate their efficacy, with regard to blood loss and duration of the III stage of labour, and to compare the incidence of occurrance of side effects.

INTRODUCTION

The 3rd stage of labour is a treacherous period, when an unexpected and uncontrollable bleeding can lead to a rapid deterioration of the patient culminating in an occasional mortality. Today the policy of watchful expectancy and masterly inactivity is unacceptable. Active management of the 3rd stage of labour has become the order of the day.

MATERIALS AND METHODS

Ninety patients were enrolled in the study. All of them were cases considered at high risk for P.P.H. All were delivered vaginally by the authors. Patients with heart disease, severe anaemia, allergic diathesis, and those having suspicion of traumatic P.P.H. were excluded. The patients were assigned serially to the 3 groups in order of their inclusion in the study. The method of treatment followed in each of the groups was :

Group I : (30 cases) Inj. Methergin (0.2 mgs) i.m. as soon as the baby was born.

Group II : (30 cases) 5.0 units oxytocin diluted in 20 ml. 5% Glucose, given through the umbilical vein as soon as the

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Accepted for Publication on 27.07.1994.

baby was delivered and the cord clamped and cut.

Group III : (30 cases) Inj. Prostaglandin F_2 250 μgs given i.m. as soon as the baby was born.

In all 3 groups the following observations were made :

1. Time elapsed from birth until uterine retraction was appreciated
2. Time elapsed from birth to first gush of blood
3. Time elapsed from the birth to cord lengthening.
4. Time elapsed from birth to expulsion of placenta.

In every case the amount of blood loss was estimated as mild, moderate and excessive and a record was made of any side effects observed.

OBSERVATIONS

1. The high risk factors present in the patients under study are analysed in Table I.
2. Parity Distribution is shown in Table II.
3. Time phase in 3rd stage of Labour in treated cases is shown in Table III.
4. The estimated blood loss is shown in Table IV.
5. The side effects are classified in Table V.
6. Vital Parameters - A comparison of vital Parameters taken just before drug administration and soon after expulsion of placenta are shown in Table VI.

DISCUSSION

Active management of the 3rd stage

Table I

Distribution of high risk patients

High risk factor	Group I (M)	Group II (Pit)	Group II (PG)
Prolonged Labour (over 24 hrs.)	9	11	8
Prolonged 2nd Stage	10	12	12
Prev. H/O P.P.H.	2	3	2
P.I.H.	6	5	8
Parity Over IV	3	5	3
Low Forceps or Vacuum	12	8	10
Hydramnios	—	2	1
Twins	2	—	1

M = Inj. Methergin
Pit = Intra-umbilical Pitocin
PG = Inj. Prostaglandin

Table II

Parity distribution

Parity	Group I (M)	Group II (Pit)	Group III (PG)
Primipare	12	15	18
Multiparae	18	15	12
Episiotomy or Perineal Tear	21	23	26

M = Inj. Methergin
Pit = Intra-umbilical Pitocin
PG = Inj. Prostaglandin

Table III

Time phases in 3rd stage of labour in treated case

Parameter	Group I (M)	Group II (Pit)	Group III (PG)
a) Retraction of uterus			
Mean	3 min. 15 sec.	3.30 min.	2.30 min.
Range	28 sec. - 8 m 30 secs.	30 sec. - 6.00 m	25 sec - 3.30 min.
b) Gush of Blood			
Mean	3 min. 50 sec.	3.40 min.	2.35 min.
Range	1.15 m = 9 m 30 sec.	40 sec - 6.15 min.	30 - 4.00 min. sec.
c) Cord Lengthening			
Mean	4 min. 30 sec.	4.00 m	2.45 m.
Range	1.30 m - 10.2 m	1.00 m - 6.30 min.	40 - 4.15 sec. min.
d) Expulsion of Placenta			
Mean	6 min. 30 sec.	5.00 m	3.15 m.
Range	2.15 m - 12.30 m	1.30 - 7.00 m.	90 sec. - 6.00 m.

M = Inj. Methergin
Pit = Intra-umbilical Pitocin
PG = Inj. Prostaglandin

is an important land mark in modern management of labour. The introduction of oxytocics for the treatment of P.P.H. has been regarded as "one of the

Table IV

Blood loss in the immediate post-partum period

Parameter	Group I (M)	Group II (Pit)	Group III (PG)
Mild (upto 60 ml)	16	18	22
Moderate (upto 150 ml)	12	10	8
Severe (more then 150 m)	2	2	—

M = Inj. Methergin
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PG = Inj. Prostaglandin

Table V

Side effects

Side effect	Group I Methergin	Group II Pitocin	Group III Prostaglandins
Vomiting	6	—	2
Loose Motions	—	—	1
Headache	3	—	1

enduring achievements of Modern Science" (Moir 1964).

Baumgarten et al (1983) compared the uterine activity in the pueperium after the intra-muscular administration of 500 μgs Carboprost or 2 IU of oxytocin or 0.2 mgs. methergin. Carboprost was the quickest to act. (3.9 mins) followed by Oxytocin (4.4 mm) and methergin (9.7 min). Uterine activity stimulated by methergin lasted for 162 mins. followed by that after carboprost 102 min. and after oxytocin 45 minutes.

Prendiville et. al. (1988) reviewed several published reports of controlled clinical trials comparing oxytocic drugs. They observed that their usage reduced the risk of P.P.H. by about 40%.

Elbourne et. al. (1988) reviewed various studies and concluded that oxytocin is superior to ergot alkaloids because it is less likely to predispose to retained placenta, Carboprost was superior to oxytocin, which has a higher potential to cause water retention. Further side effects like, nausea, vomiting, and hypertension are commoner with ergot derivatives and oxytocin.

Symes (1984) observed that ergot alkaloids suppress prolactin, and may

thus adversely affect establishment of lactation.

Patki et. al. (1993) concluded that carboprost intramuscular effectively shortened the 3rd stage of labour, minimised bleeding and safeguarded against P.P.H. effectively. However this method is the most expensive.

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