THE INFLUENCE OF OXYTOCICS ON THE BLOOD LOSS IN FIRST TRIMESTER MEDICAL TERMINATION OF PREGNANCIES†

by

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Haemorrhage as a complication after termination of pregnancy is well documented. This knowledge and its prevention is very important in countries like India, where most women who come for termination, are anaemic, have malnutrition, are below average regarding health and where blood transfusion facilities are available only at few centres. Hence extra blood loss during any operative procedure would be at the expense of their well being and health.

Material and Methods

A study of blood loss was done in 190 cases undergoing first trimester medical termination of pregnancy by suction evacuation method under paracervical block at Lady Hardinge Medical College and Smt. Sucheta Kripalani Hospital, New Delhi. No premedication was given.

These cases were divided into three groups, a control group of 70 patients where no oxytocic agent was used, a Syntocinon group consisting of 60 patients where 10 units of Synotocinon diluted in 40 ml. of 5% glucose was given I/V slowly prior to suction evacuation and a third group comprising of 60 patients who received 0.2 mgm. of injection Methergin (Methyl ergonovine) I/V after cervical dilatation but prior to suction evacuation.

Suction evacuation was done electrically by the Berkeley apparatus. After cervical dilatation by Hawkin's dilators, Karman cannula was used. Pressure raised during the procedure was 65 cm. of Hg.

Blood loss was measured from the contents of the aspiration flask after straining to separate products from the blood. Any gauze piece used during the procedure was weighed before and after the procedure to calculate the exact amount of blood absorbed and this amount was then added to the total volume of blood loss.

Results

The maximum blood loss was highest (286 ml) in the control group. It was 220 ml with I/V Syntocinon and was the lowest (124 ml) with I/V Ergometrine, being half that of the Control group.

Similarly when oxytocics were used, no patient had blood loss of more than 250 ml as compared to 1.43% patients who lost more than 250 ml in the group where no oxytocic was given.

The number of patients having blood loss of less than 15 ml. was half in the

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TABLE I
Distribution of blood loss

Blood loss in ml.	Control Group		Syntocinon Group		Ergometrine Group	
	No.	%	No.	%	No.	%
upto 15	20	28.57	27	45.00	26	43.33
16- 30	19	27.14	11	18.33	18	30.00
31- 60	18	25.71	14	23.34	11	18.33
61- 90	9	12.86	4	6.66	3	5.00
91-120	1	1.43	2	3.33	1	1.67
121-150	0	0.00	1	1.67	1	1.67
151-200	2	2.86	0	0.00	0	0.00
201-250	0	0.00	1	1.67	0	0.00
251-300	1	1.43	0	0.00	0	0.00

control group as compared to the groups where oxytocic agent was used, since 28.57% patients of control group had blood loss of less than 15 ml. as compared to 45.0% in the group where Syntocinon was given and 43.33% where Ergometrine was used.

Hence the largest amount of blood loss was in the control group and the least was with Ergometrine.

and 11.5 times more in the Ergometrine group. There was statistically significant difference ($P < 0.05$) between the amount of bleeding for every 2 weeks of gestation in all the 3 groups (Table II).

Again it was noticeable that blood loss in group having oxytocic was consistently less in all period of gestation as compared to group without it. In early gestation between 4-6 weeks, the amount of

TABLE II
Average blood loss in relation to period of gestation

Period of gestation in weeks	Blood loss in ml.					
	Control Group		Syntocinon Group		Ergometrine Group	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
upto 6	12.77	13.61	8.21	7.04	8.79	3.59
7- 8	35.30	16.91	17.95	11.85	19.32	14.85
9-10	61.12	12.76	45.59	17.31	39.87	15.49
11-12	204.00	54.58	121.59	55.22	93.12	23.36

As period of gestation increased, blood loss also increased. When period of gestation increased from 4-6 weeks to 7-8 weeks, blood loss doubled in the Oxytocic group and increased by 3 times in the control group. Similarly, when gestation was of 11-12 weeks, the increase was 17 times more in control group, 15 times more in Syntocinon group

blood loss was relatively small in all the 3 groups ranging from 8.2 ml to 12.7 ml. After 7th week of gestation, the blood loss in patients receiving no oxytocic agent increased much more sharply than in other 2 groups and difference between control and oxytocic group was statistically significant ($P < 0.05$).

Hence oxytocic agents reduced blood

loss by 50% from 7 to 12 weeks of gestation, Ergometrine being most effective.

Primigravida had 2 times more blood loss than multigravida in all period of gestation in all the 3 groups and this difference was again statistically significant ($P < 0.05$).

Discussion

In this study oxytocic agents significantly reduced the amount of blood loss during first trimester termination of pregnancies, Ergometrine being the most effeetive. The routine use of these agents is recommended especially in Indian women where any extra blood loss has an ill effect on their health.

Vladov *et al* (1965), Eaton (1969), Johansson (1970), Latersen and Conard (1974), also concluded that the administration of oxytocic agents significantly reduced the amount of blood loss during suction evacuation.

In the present study with I/V Syntocinon 86.67% patients had blood loss upto 60 ml. and 6.67% had more than 90 ml. Penfield (1971) observed that 71.4% had blood loss up to 50 ml.

Average blood loss of 31.03 ml. in the Syntocinon group was comparable to 25.6 ml. seen by Cullen *et al* (1970), 25-50 ml. reported by Penfield (1971) and Nathansan (1971).

Guttmacher (1964) also recommended the use of I/M injection of 10 units of Oxytocin before the procedure to reduce the risk of uterine perforation and to diminish bleeding. However, no data on reduction in the incidence of such complication were given.

Beric *et al* (1972) injected mixture of gynethesin containing procain, papavarine, oxytocin (8 I.U.) and atropine into pericervical tissue. He reported 30% decrease in blood loss when such mixture was used.

With the use of Ergometrine, in this study, 91.60% had blood loss up to 60 ml. which is comparable to 80.0% patients who had blood loss less than 50 ml. in the series of Ghosh (1973). In the latter series blood loss was slightly less than the present series because the dose of Ergometrine used was 0.5 mgm as compared to 0.2 mg used in the present study.

However Cernoch (1960) found no reduction in amount of haemorrhage when ergot was administered in cases of early suction aspiration.

Kerslake and Casey (1967) also suggested the use of Ergonovine to reduce blood loss, these authors agree with Vladov and co-workers (1965) that reduction in blood loss during vacuum aspiration using Ergonovine was partly due to shortening of the length of the procedure. This agrees with the finding in this series when oxytocic agent was used.

There was no statistically significant difference in the amount of blood loss between Oxytocin and Ergometrine group, the use of Ergometrine seemed advantageous since it was most effective in reducing blood loss. However rise in blood pressure and vomiting may be encountered with Ergometrine.

Summary and Conclusion

Oxytocic agents significantly reduced the amount of blood loss by 50% from 7th to 12th week of gestation, Ergometrine being most effective. Increase in the blood loss was proportionate to increase in period of gestation and this was statistically significant ($P < 0.05$). Primigravida bled more than multigravida.

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