

## ACTIVE MANAGEMENT OF THIRD STAGE OF LABOUR BY OXYTOCIN INSTILLATION INTO THE UMBILICAL VEIN

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### SUMMARY

Three hundred cases of normal labour were treated with instillation of 5 units of Oxytocin in 10 ml of normal saline into the umbilical vein immediately after delivery of the baby. A group of 50 parturients were treated as control with 0.2 mg of methergin IV after delivery of the head. In both groups placentas were delivered by Brandt-Andrews technique.

In the study group, the mean injection-placental expulsion time was  $3.16 \pm 1.53$  minutes and in controls it was  $4.16 \pm 3.79$  minutes ( $P > 0.05$ ).

Average blood loss was  $135.68 \pm 149.76$  ml in study cases and  $101.59 \pm 139.51$  ml in controls ( $P > 0.05$ ). Retained placenta and Post partum haemorrhage occurred in 0.66% and 3.66% respectively in study and 2% and 4% in controls.

It is concluded that this relatively new method of active management of 3rd stage is associated with shorter duration and less complication. It avoids the IV injection of ergometrine in proper time and can safely be used in cases where ergometrine is contraindicated.

"Third stage of labour is always a time of anxiety which no Obstetrician ever outlives" (Donald). The days of watchful expectancy with masterly inactivity have been left miles behind. Active management of this stage now has become the rule. Usually this is done by giving methergin (0.2 mg) IV at the birth of head or anterior shoulder to facilitate early separation and delivery of the placenta. But this is not always possible in a crowded labour room or when in rural areas, no help is at hand. A slight delay may be associated with complications. Neri et al (1966) had introduced a new method of giving Oxytocin 5 units into the umbilical vein to enhance separation of the placenta. The method has previously been tried by Golan et al (1983), Heinonen et al (1985) and Chestnut et al (1987) for treating retained placenta. A prospective con-

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*Accepted for publication on 17/10/1989.*

trolled study was taken up to compare these two methods.

### **Material and Methods**

The patients selected for this study were normal deliveries at term in otherwise uncomplicated cases. Every seventh case was selected for prophylactic Methergin after which the placenta was delivered by Brandt - Andrew's method. For the study cases, the cord was clamped close to vulva immediately after separation of the baby. Umbilical vein was identified and 5 units of Syntocinon in 10 ml of Normal Saline injected into it. Placenta was delivered either by fundal pressure or Brandt-Andrews method. The time interval from injection to expulsion of placenta was noted. Blood loss was measured by keeping a receptacle close to the vulva. If the placenta was not delivered by 5 minutes, a second injection of oxytocin as above was repeated. If it did not deliver by 15 mins, it was considered as a failure and manual removal was resorted to.

### **Observations**

A total of 350 cases were studied, of which 300 were study cases and 50 controls. The cases matched in age, maximum number being between 15 to 25 years in both study (50%) and controls (55%). The cases also matched in parity in both the groups.

### **Nature of Delivery**

Ninety two percent of controls and 90% of the study group had normal delivery or with episiotomy. Low forceps operation was required in 8% and 10% respectively.

### **Duration of 3rd State**

The duration of third stage is compared in Table I.

**TABLE - I**  
**THIRD STAGE DURATION**

	Controls (mins)	Study cases (mins)
Minimum duration	2.16	1.00
Average duration	4.16 ± 3.79	3.16 ± 1.53
$t = 1.84, p > 0.05$		

Though it appears that the minimum duration in study group is less, there is no statistically significant difference in the average duration of 3rd stage between the two groups.

### **Blood Loss**

The amount of blood loss during the 3rd stage in the two groups of cases is outlined in Table II.

It was found that average blood loss was slightly more in the study group, but the difference is not statistically significant.

### **Postpartum Complications**

The two major postpartum complications are outlined and compared between the two group of cases in Table III.

Though the incidence of postpartum haemorrhage was almost equal in both groups, there was a definite increase in the incidence of retained placenta in the controls, leading to manual removal.

### **Discussion**

The present prospective controlled study was carried out to compare the duration, blood loss and complications of 3rd stage of labour between usual method of prophylactic methergin and giving intraumbilical oxytocin 5 units in 10 ml of normal saline after delivery of the baby.

With intraumbilical vein injection, the mean injection and placental expul-

TABLE - II  
BLOOD LOSS

Amount of Blood loss (ml)	Controls		Study Group	
	No.	%	No.	%
50 - 100	39	78.00	170	56.67
101 - 150	6	12.00	56	18.67
151 - 200	1	2.00	36	12.00
201 - 250	0	0.00	13	4.33
251 - 300	1	2.00	11	3.67
301 - 350	1	2.00	2	0.67
351 - 400	0	0.00	1	0.33
401 - 450	0	0.00	0	0.00
451 - 500	0	0.00	1	0.33
> 500	2	4.00	10	3.33
	Average loss 101.59 ml.		135.68 ml	
	S.D. $\pm$ 139.59		$\pm$ 149.76	
	t = 1.58		p > 0.05	

TABLE - III  
COMPLICATIONS

Complications	Control		Study Group	
	No.	%	No.	%
Retained (> 20 min) Placenta	1	2.00	2	0.66
Postpartum (>500 ml) Haemorrhage	2	4.00	10	3.66
Total	3	6.00	12	4.32

sion interval was found to be 3.3 mins by Neri et al (1966). Jain et al (1986) found this to be 1.77 mins. In the present study this was observed to be  $3.16 \pm 1.5$  mins. In the control group only 22% of the cases had placental expulsion in 1-3 mins. In the present method placental separation occurred early because the method delivers large amount of oxytocin at the placental site (Golan, 1985).

In the study group, blood loss was within 200 ml in 87.34% compared to 92% in the controls. In the latter group average blood loss was less ( $101.59 \pm 139.51$ ) compared to  $135.68 \pm 149.76$  ml in the former. However, the difference was not found to

be significant. This finding was in difference with those of Jain et al (1986).

The incidence of retained placenta in the study group was only 0.66% which compares favourably with the finding of Golan (1983). Incidence of manual removal was thus significantly reduced. Similarly, PPH was less (3.66%), which was a little more than that found that Jain et al (1986) (2%).

### Conclusion

From this controlled study of active management of third stage of labour by injecting 5 units of oxytocin in 10 ml of normal saline into the umbilical vein

immediately after completion of 2nd state, it was found that, the duration and complications of 3rd stage were substantially reduced.

Blood loss is not significantly increased. Thus the method is simple, safe and noninvasive. The disadvantages of injecting Ergometrine IV at proper time can be avoided. It can be safely employed in cases where Ergometrine is contraindicated.

#### Acknowledgement

The author gratefully acknowledges the permission given by the Superinten-

dent, VSS Medical College Hospital, Burla to use the hospital records for preparation of this paper.

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