ROLE OF INTRAUMBILICAL OXYTOCIN IN THIRD STAGE OF LABOUR

DEVINDER KAUR ● S. SHERGIL ● A.S. SAINI ● SUSHMA

SUMMARY

Active management of third stage of labour by intra-umbilical injection of oxytocin was done in 450 cases. Immediately after the delivery of the baby the cord was clamped and five units of oxytocin in 10 ml of normal saline were injected into the umbilical vein. The results were compared with control group of 50 patients in whom 10 ml of normal saline was injected. The average duration of third stage was 3.26 minutes in treated group and 4.17 minutes in the control group. Average amount of blood loss was 152 ml in control group and 123 ml in the treated cases. This method is particularly useful in patients in whom I.V. access is limited or when I.V. fluids need to be restricted and in whom ergometrine is contraindicated. Besides it is simple, non-invasive, cost-effective and acceptable alternative method of active management of 3rd stage.

INTRODUCTION

Postpartum haemorrhage is a major obstetrical complication and is one of the important causes of maternal mortality and morbidity. In India where most of the pregnant women are already anaemic, even smaller amounts of blood loss may be of significance. Moreover dangers of blood transfusion like B. hepatitis, AIDS, malaria, and transfusion reactions can be avoided by active management of 3rd stage and thus reducing the amount of blood loss. In routine obstetric practice, ergometrine injection at the time of delivery of anterior shoulder needs precise timing, otherwise there are chances of entrapment of placenta. In the present study intraumbilical oxytocin solution was given to shorten 3rd stage of labour. The concept of intra-umbilical

Dept. of Obstet. & Gyn., Medical College, Amritsar.
Accepted for Publication on 20.10.95

injection of oxytocin was devised by Golan et al (1983) who contended that the procedure facilitates the delivery of higher concentrations of oxytocin to placental bed and uterine wall resulting in uterine contraction and placental separation.

MATERIAL AND METHOD

For the present study 500 cases admitted to the Labour Room of the Department of Obstetrics and Gynaecology of S.G.T.B. Hospital/Medical College, Amritsar were selected. Both booked and unbooked patients were selected at random and divided into two groups after taking careful history and examination.

Group I 450 cases (Treated)
Group II 50 cases (Untreated)

Procedure

The cord was clamped immediately after the delivery of baby. 5 units of oxytocin diluted in 10 ml of normal saline were injected into the umbilical vein in Group I cases while Group II cases were injected 10 ml of normal saline alone. Time interval from injection to expulsion of placenta was noted. Blood loss was measured by keeping kidney tray close to the vulva and later putting it in a measuring beaker. In case of non-separation of placenta in 5 minutes, second dose was given and if this failed manual removal was done.

OBSERVATIONS

Out of 500 cases, 380 (76%) were booked while 120 (24%) were unbooked. 465 (93%) patients were in the age group of 20-30 years while 17 (3.4%) were more than 30 years of age and 18 (3.6%) cases were less than 20 years of age. 208 (41.6%) were primigravidae, 133 (26.60%) were 2nd gravidae and 159 (31.8%) were multiparae. Out of these 326 (65.2%) and normal vaginal delivery and 129 (25.8%) had normal vaginal delivery without episiotomy or forceps. 388 (77.6%) had spontaneous onset of labour. 101 (20.7%) had acceleration of labour and in 11 (2.2%) labour was induced.

The average duration of 3rd stage was 3.26 minutes in treated cases and

TABLE - I
DURATION OF 3RD STAGE OF LABOUR

Time in minutes	Treated (450)		Untreated (50)	
	No.of cases	Percentage	No.of cases	Percentage
0 - 2.0	93	20.66	9	18.00
2.1 - 5.0	319	70.88	27	54.00
5.1 - 10.0	38	7.11	14	28.00
Mean		3.26 + 1.55	4.17 + 2.27	

TABLE II
AMOUNT OF BLOOD LOSS

Amount of blood loss (ml)	Untreated (50) No.of cases	Percentage	Treated (450) No.of cases	Percentage
50-100	18	36.00	236	52.45
101-150	15	30.00	126	28.00
151-200	5	10.00	39	8.67
201-250	4	8.00	18	4.00
251-300	3	6.00	17	3.78
301-350	3	6.00	1	0.22
351-400	1	2.00	1	0.22
401-450	1	2.00	2	0.44
451-500	-	-	6	1.34
>500	-	-	4	0.88
Mean	152.00 ± 89.56		123.33 ± 80.36	

4.17 minutes in the control group (Table I). Average amount of blood loss was 152 ml in untreated cases and 123 ml in control cases (Table II).

DISCUSSION

The mean duration of third stage of labour in study group was found to be 3.26 + 1.55 minutes. Other authors have reported it to be 3 minutes 40 seconds (Golan et al, 1984), 4.1 minutes (Dhillon et al, 1992) and 5.38 minutes (Nayak et al, 1993). The success rate in the present study (98%) is in agreement with Chhabra et al (1989) who had reported it to be 99.23%.The mean duration of third stage of labour in control group was 4.17 minutes which was very short as compared to 9.4 minutes by Dhillon et al (1992) and 8.2 minutes by Nayak et al (1993).

Mean blood loss in study group was 123.33 + 80.36 ml as compared to 152.00 + 89.56 ml in the control group. This was statistically highly significant ($p < 0.01$). Nayak et al (1993) have also reported a significant difference in blood loss in oxytocin group (48.2 ml) and control group (100.5 ml). However, Dhillon et al (1992) reported a blood loss of 100-200 ml and 300-400 ml in oxytocin and control group respectively. No injury to the cord, placenta or membranes occurred in any of the cases in the present study.

The findings of the present study justify the use of intra-umbilical oxytocin in 3rd stage as simple, useful, less expensive, non-invasive, effective and acceptable alternative method of active management of 3rd stage of labour.

REFERENCES

1. *Chhabra S., Soman V. and Nayar P.: J. Obstet. and Gynec. Ind. 39: 678, 1989.*
2. *Dhillon R., Daftary S.N., Desai S.V. and Nanavati M.: J. Obstet. and Gynec. Ind. 42: 771, 1992.*
3. *Golan A., Lidor A.L. and Wexler S.: Am. J. Obstet. and Gynec. 146: 708, 1983.*
4. *Golan A., Lidor A.L. and Wexler S.: Am. J. Obstet. and Gynec. 148: 232, 1984.*
5. *Nayak A.H., Mhatre G.M. and Dalal A.R.: J. Obstet. and Gynec. Ind. 43: 214, 1993.*