

“THE USE OF AN OXYTOCIC AGENT IN THE MANAGEMENT OF THE THIRD STAGE OF LABOUR”

J.D. SEFFAH, J.B. WILSON & R.A. KWAME-ARYEE

Department of Obstetrics and Gynaecology University of Ghana Medical School,
P.O. Box 4236, Accra Ghana

SUMMARY

Our objective was to find the most appropriate time a sole accoucheur should give an oxytocic agent in the management of the third stage of labour.

The outcome of the management of the third stage of labour of 440 parturients was studied. Various time schedules for the administration of an oxytocic and the consequences of these were analysed. The administration of an oxytocic at the crowning of the head or the delivery of the anterior shoulder of the foetus is a method practised mainly at the Korle-Bu Teaching Hospital in Accra (capital city of Ghana) At the Volta River Authority (V.R.A.) district hospital at Akosombo (a rural area in the Eastern Region of Ghana, where the midwives usually do deliveries alone) the drug is mainly given after the delivery of the baby or placenta.

For single, unaided accoucheur, the administration of the oxytocic after the delivery of the baby followed by controlled cord traction that is, the Brandt-Andrew's method¹ of delivering the placenta appears the most practical approach to the management of the third stage of labour because the complications are few.

INTRODUCTION

The third stage of labour, starting from the delivery of the baby to the delivery of placenta, is quite important because its mismanagement causes high morbidity and mortality from haemorrhage, infections and shock².

After the delivery of the baby, the uterine volume decreases. The intrauterine pressure builds up as the tension (contractility) in the myometrium is maintained^{3,4}. The tension is increased⁵ by the administration of an oxytocic. This helps placental separation and reduces blood loss.

The Brandt-Andrew's method¹ and the conservative method, (which involves spontaneous separation of the placenta and its delivery) followed by the administration of the oxytocic⁶ have been the most practised ways of delivering the placentae in the labour wards. Either method involves the administration of an oxytocic which is given at different times. The passive physiological method⁷ is not practised in our labour wards.

OBJECTIVE

The purpose of this study is to evaluate the timing of the administration of the oxytocic with the view to finding out the best option for the sole accoucheur.

MATERIALS AND METHODS

Four hundred (400) parturients from Korle-Bu and 40 patients from the V.R.A Hospital, Akosombo who delivered vaginally were studied between January 1st 1995. Their labour and delivery records were reviewed.

Excluded from the study were those with incomplete notes as were as those with gestational ages less than 28 weeks.

Correspondence to: Dr. J.D. Seffah

These deliveries were mostly done by midwives who were supervised by the Obstetricians and Medical Officers. Some deliveries were done by Medical Students and Midwives in training at Korle-Bu. The V.R.A. Hospital is a district hospital where midwives do all the deliveries.

The study population was grouped into four:

Group A: Sixty-six (66) parturient from Korle-Bu and 5 from the V.R.A. Hospital had stimulation of labour and had oxytocic drip throughout the third stage as well as the next hour (4th stage).

Group B: One Hundred and Eighty-one (181) parturients from Korle-Bu and 8 from the V.R.A. Hospital had parenteral oxytocic

administered to them upon the delivery of the anterior shoulder of the foetus.

Group C: One Hundred and Two (102) parturients from Korle-Bu and 8 from the V.R.A. Hospital had parenteral oxytocic administered to them upon the delivery of the foetus.

Group D: Forty-one (41) parturients from Korle-Bu and 16 from the V.R.A. Hospital had the oxytocic after delivery of the placenta. 12 of these were breech deliveries.

The age, parity, duration of the third stage, the estimated blood loss and other complications were analysed. The type of accoucheur, (Midwife, Medical Students, or Doctor) was also analysed.

Table 1: Timing of Administration of Oxytocics

	Group A	Group B	Group C	Group D
	Stimulated Group N = 71	Anterior Shoulder N = 189	After Delivery of Baby N = 113	After Delivery of Placenta N = 67
Age Range (Yrs)	17-42	17-42	16-41	17-43
– mean	24.2 (SD 5.2)	24.8 (SD 5.8)	24.3 (SD 5.2)	23.8 (5.3)
Parity				
– range	0-5	0-6	0-8	0-7
– mean	2.5 (SD 2.3)	2.3 (SD 2.4)	2.4 (SD 3.5)	2.5 (2.6)
Duration of 3rd Stage in mins				
– range	5-25	5-35	5-40	5-60
– mean	12.9 (SD 5.0)	12.7 (SD 4.9)	19.8 (SD 7.6)	23.0 (SD 8.3)
Blood loss (mls)				
– range	100-1000	100-1000	200-1500	300-1500
– mean	265 (SD 202)	281 (SD 112)	363 (SD 203)	486 (SD 262)
Complications				
– Retained Placenta	1 (1.4%)	6 (3%)	6 (5%)	7 (11%)
– Retained Twin	2 (3%)	4 (2%)	0 (0%)	0 (0%)
– PPH > 500ml	8 (11%)	13 (10%)	2 (11%)	15 (22%)

PPH = Post Partum Haemorrhage

RESULTS

As illustrated by the table, the age and parity distribution of the four groups was similar. The mean duration of the third stage was longest 23 min (SD 5.3min) with the patients who had an oxytocic after the delivery of the placenta (Group D). This group also showed the highest average blood loss 468ml (SD 262 ml). However, retention of the second twin was never a complication.

Groups A and B had similar average duration of the third stage of about 13 min. The blood loss was least among patients who had had stimulation of labour and the oxytocic drip administered throughout the third stage and the next hour (4th stage). (Group A).

When the oxytocic was given after the delivery of the baby, (Group C) there was no retention of a second twin. In addition the incidence of postpartum haemorrhage was similar to that in the groups who had continuous oxytocic drip (Group A) and those who had the oxytocic at the delivery of the anterior shoulder. (Group B)

Retained placentae occurred in all the groups, with the highest proportion occurring in Group D.

DISCUSSION

In this study the techniques of the recovery of the placenta were applied according to the skills and preferences of the accoucheur. The Medical Students and trainee Midwives at Korle Bu faithfully gave the oxytocic at the delivery of the anterior shoulder, followed by the Brandt-Andrew's method. Most Midwives at the VRA Hospital and some at Korle Bu preferred to give the drugs after delivery of the baby. This minimised interference with the mother and baby⁸.

It appeared from the study that the administration of the oxytocic after the delivery of the baby was attended by a shorter delivery time and less bleeding than when the oxytocic is given after delivering the placenta. However, the risk of retaining the placenta

was still there when controlled cord traction was not applied. Again the outcome in the former in terms of the incidence of postpartum hemorrhage was not significantly different from that obtained from giving the oxytocic at the delivery of the anterior shoulder (Group B) ($P>0.05$).

Some Midwives, delivering the babies without any assistance, gave the oxytocic after delivering the placenta. This caused significantly more bleeding and prolonged third stage than any other group ($P<0.05$). However, there was no retention of a second twin.

When the oxytocic was used for stimulation of labour and this was continued after the delivery of the placenta, the delivery time was short but in a few instances when the rate was not increased or the infusion stopped prematurely, bleeding from uterine atony was considerable.

CONCLUSION

The administration of the oxytocic with the delivery of the anterior shoulder is mostly practised at Korle-Bu. Even at Korle-Bu, and in the district as well, the accoucheur may prefer to give the drugs after the baby or placenta has been delivered. The most practicable method for the sole accoucheur appears to be to give the oxytocic after delivery of the bay, followed by controlled cord traction. Continuing an oxytocic drip after stimulation appears safest but in the district midwives are not in a position to apply this method often.

RECOMMENDATIONS

The spectre of a sole Midwife taking delivery of the baby, resuscitating it, coming back to deliver the placenta, and making the mother and baby comfortable all by herself is disheartening. But until assistance becomes mandatory in district practice, she should give the oxytocic after delivering the baby and in addition apply controlled cord traction. This allows for the resuscitation of the baby and at the same time prevents retention of the placenta thus reducing blood loss.

ACKNOWLEDGEMENT

We are grateful to Dr. K. Amaniampong of Korle-Bu and Mr. J. Nkrumah-Mills, Medical Superintendent, VRA Hospital, Akosombo; for their literary advice. We are also grateful to Mr. Emmanuel Larbi of the Centre for Health Information Management for the statistical analysis of the data.

REFERENCES

1. Ressel, K.P., Brandt-Andrews Technique, In: Current Obst & Gyn Diagnosis & Treatment Ed Benson R.C., Lange 1976; 31, 585
2. Unuigbe J.A., Orhue A.A.E. and Oronsaye A.U. Maternal Mortality at the Benin Teaching Hospital, Benin City, Nigeria. In: *Tropical Journal of Obs/Gyn.*, Special Edition Series 1988; 1(1): 13-18.
3. Coren, R.L., Csapo A.I., The intra amniotic pressure. *Am J. Obstetric/ Gynaecology* 1963; 85: 470 - 483.
4. Caldeyro-Barcia R., Pose S.V., Alvarez H. Uterine contractility in polyhydramnios and the effect of withdrawing the excess fluids. *Am J. Obstetrics/Gynaecology* 1957; 73: 1238-1254.
5. Thornton S., Gillespie J.I., Biochemistry of Uterine Contraction, In: Contemporary review in Obstetrics/Gynaecology ED. Chamberlain and Drife Butterworth - Vol 4 No.3 July 1992, Heinemann.
6. Cardale Phillipa, Management of the third stage, In: OBSTETRICS, Turnbull and Chamberlain Churchill Livingstone (1989) 48:739.
7. Sleep Jennifer, "Delivery of the Placenta and Membranes - Passive physiological Management", In: Myles Textbook for Midwives. Ed. Bennett and Brown 11th Edition. Churchill Livingstone (1992) 15:217.
8. Inch S. "Management of the third stage - another cascade of intervention" *MIDWIFERY* 1985; 1: 114-122.