

## PREVENTION OF THIRD STAGE COMPLICATIONS DURING VAGINAL DELIVERY AT LOW RESOURCE SETTING: A COMPARATIVE ANALYSIS

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### HOW TO CITE THIS ARTICLE:

Dilip Kumar Dutta, Rajiv Gon Chowdhury, Indranil Dutta. "Prevention of Third Stage Complications during Vaginal Delivery at Low Resource Setting: A Comparative Analysis". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 40, May 18; Page: 6926-6930, DOI: 10.14260/jemds/2015/1006

**ABSTRACT: OBJECTIVE:** Prevention of third stage complications during vaginal delivery is very much significant to reduce maternal mortality and morbidity at low resource setting. **METHODS:** Certain modification during vaginal delivery have been formulated on 400 pregnant women (200 in each group) at a State General Rural Hospital, West Bengal. **RESULTS:** It was observed from this study that third stage complications were found to be less in Group- A as compared to Group-B. **CONCLUSION:** Placement of baby on mother's abdomen, early breast feeding and misoprostol (600 mg) (Group-A) during vaginal delivery is found to be more advantageous as regards to (1) Sustained uterine contraction and retraction. (2) Early expulsion of placenta and (3) Minimal postpartum blood loss as compared to others respective group.

**KEYWORDS:** Vaginal delivery, Placement of baby on mother's abdomen, Misoprostol, Oxytocin.

**INTRODUCTION:** Postpartum haemorrhage still remains the vital cause,<sup>(1,2)</sup> of maternal death (5-12%) in rural areas of developing countries. Uterine atony accounts for about 80-85% of the cases of P.P.H.

Institutional delivery should be the only method to prevent MMR. In spite of the awareness, around 30-40% of deliveries are still occurring as home deliveries at low resource settings.

Till date a lot of work and advancement has been done on the 1<sup>st</sup> and 2<sup>nd</sup> stage of labour compared to 3<sup>rd</sup> stage of labour. Although study on placental transfusion rate and uterine contraction, effect of gravity on placental transfusion, distribution of blood between fetus and placenta after birth, necessity of clamping and dividing cord influence of breast feeding and nipple stimulation on postpartum uterine activity and AMTSL to prevent P. P. H. has already been reported.<sup>(2,3,4,5,6,7)</sup>

To prevent 3<sup>rd</sup> stage complications, certain modifications during normal vaginal delivery have been formulated. This is more convenient and safe, especially where minimum facilities to tackle obstetrical emergencies are lacking.

**MATERIALS AND METHODS:** Clinical studies were conducted on three hundred pregnant women during the time of delivery. Clinical studies were done at State General Hospital in West Bengal, during the period from 1st June 2009 to 31st January 2010.

**The Following 2 Groups Were Made for Convenience of our Comparative Studies:** Group A (N-200) - After delivery; baby is put on mother's abdomen till placental expulsion. (Shown in plates No 1-10), early breast feeding, oral misoprostol {600mg} Group B (N-200) - Baby is separated before the expulsion of placenta. (i. e. within 1 minute of cessation of cord pulsation) + Oxytocin 10 IU IM after delivery of shoulder.

**The Main Aim of this Present Study was to Find Out:**

1. Quality of uterine contraction and retraction.
2. Duration of placental expulsion.
3. Amount of immediate postpartum blood loss.
4. Necessity of using drugs (Misoprostol, Oxytocin).
5. Incidence of retained placenta.
6. Incidence of inversion of uterus.

**Following Conditions are excluded from the Present Studies:**

1. Multiple Pregnancies.
2. Abnormal Presentations And Positions,
3. C.P.D.
4. B.O.H.
5. A.P.H.
6. Severe P.I.H.
7. Prematurity.
8. Rh- Incompatibility.
9. High Risk Pregnancies.
10. Foetal Distress.
11. Low Apgar Score.
12. Meconium Stained Liquor.

**RESULTS:**

Group and Number	Uterine Contraction and Retraction (minute)			Placental expulsion (minute)		
	Excellent <5min	Good (5-10min)	Moderate >10min	<5min	5-10min	>10min
Group A (N-200)	92% (184)	8% (16)	-	98% (196)	2% (4)	-
Group B (N-200)	80% (160)	12% (24)	8% (16)	25% (50)	65% (130)	10% (20)

Table 1: Clinical Observations of Three Different Groups

**Ab: Minute-m:** It was observed from (Table- 1) that uterine contraction and retraction was found to be excellent (<5 minutes) in Group -A (92%) as compared to 80% in Group-B. This might be probably due to (1) Fetal weight on the mother abdomen (Act as fundal pressure). (2) Fetal movement (Act as massage to the uterus). (3) Fetal skin contact with mother skin (maintain fetal temperature). (4) Psychological change of mother after seeing the baby on her abdomen that leads to early (<5 minutes) and sustained uterine contraction and retraction in Group-A. Due to above reasons early expulsion of placenta <5 minutes were observed in Group -A (98%) as compared to Group -B where 65% of placental expulsion occurred within 5-10minutes.

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Group and Number	Blood loss		Retained Placenta	Inversion of uterus
	<100cc	100-200cc		
Group A (N-200)	92% (184)	8% (16)	Nil	Nil
Group B (N-200)	75% (150)	25% (50)	2% (4)	Nil

**Table 2: Clinical Observations of three Different Groups**

From the (Table-2) it was found that immediate post-partum blood loss was found to be less than 100 C. C in Group-A (92%), probably due to early placental expulsion caused by sustained uterine contraction and retraction, as compared to Group-B (75%) where postpartum blood loss of 100-200C. C were observed in 25%. Retained placenta and inversion of uterus was found to be absent in Group-A whereas in Group-B incidence of retained placenta was 2% and inversion of uterus was found to be nil in both groups, probably due to early intervention to remove the placenta in some cases.

Observation	Group-A (N-200)	Group-B (N-200)
Uterine contraction & retraction	Excellent (92%) <5 minute	Excellent (80%) <5 minute
Placental expulsion	Early (98%) <5 minute	Early (25%) <5 minute
Postpartum blood loss	<100c.c. in 92%	<100cc in 75%
Retained placenta	Nil	2%
Inversion of uterus	Nil	Nil

**Table 3: Comparative Analysis of Clinical Observation of three Different Groups**

It was noticed from the Table-3 that in Group-A there is an excellent contraction and retraction of uterus, (92%) early expulsion of placenta, (98%) post-partum bleeding <100cc (92%) as compared to Group-B where there uterine contraction and retraction in 80, (25%) early expulsion of placenta, (75%) post-partum bleeding 100cc.

Retained placenta was found in 2% of patients in Group B which was manually removed.

**DISCUSSION:** Active Management of third stage of labour (AMTSL) is widely used specially in most of the government hospital and medical college to prevent PPH. 30-40% of home deliveries are still occurring in remote villages and low resource setting where AMTSL is still not advocated as a routine. This leads to high incidence of PPH and eventually leading to MMR.

The main aim of this present study was to find out Quality of uterine contraction and retraction, Duration of placental expulsion, Amount of immediate postpartum blood loss, necessity of using drugs (Misoprostol, Oxytocin), Incidence of retained placenta, and Incidence of inversion of

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uterus. This comparative study was undertaken in two groups (200 in each) and their impact in reducing incidence of PPH.

It was observed from this comparative study that in Group-A (As compared to Group B) there was a there is an excellent contraction and retraction of uterus, (92%) early expulsion of placenta, (98%) post-partum bleeding <100cc (92%) as compared to Group-B where there uterine contraction and retraction in 80, (25%) early expulsion of placenta, (75%) post-partum bleeding 100cc. Retained placenta was found in 2% of patients in Group B which was manually removed.

Advantage in Group A includes Avoidance of unnecessary clamping and pulling of cord in presence of uncontracted uterus (still existing in domiciliary practice) , Normal temperature of the baby was maintained due to contact with mother skin, Baby can be easily put on breast for early sucking after placental separation, Postpartum transfer of blood to fetus is rapid, Amniotic fluid embolism (Caused by hypertonic uterus due to excessive use of oxytocics) can be prevented, Technique is safe and do not interfere normal progress of vaginal delivery of placenta, Does not interfere with the psychology of mother, Minimum training of midwife/health worker will help to apply this technique, Suitable technique for rural women of Asian countries where women are ill nourished having less blood volume and lower antenatal Hb value and where there is lack of hospital trained staff and other necessary manpower especially in hilly areas.

**CONCLUSION:** This study clearly shows that placing the baby on mother's abdomen after delivery till the expulsion of placenta, early breast feeding and misoprostol (600mg) minimize the complications of third stage of labour at low resource setting. And it also implies that this method can reduce the PPH and MMR where Active management of third stage of labour is not adopted routinely.

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### **FINANCIAL OR OTHER**

**COMPETING INTERESTS:** None

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Date of Submission: 20/04/2015.  
Date of Peer Review: 21/04/2015.  
Date of Acceptance: 11/05/2015.  
Date of Publishing: 15/05/2015.