

# Caesarean delivery in ante partum hemorrhage (APH) - conventional vs. modifications

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## Abstract

**Aims and Objectives:** With modifications during caesarean delivery minimized or control fatal obstetrics hemorrhage.

**Type of Study:** Clinical, interventional, prospective, randomized controlled Trial (RCT). **Place, Duration and Sample Size** In the Dep't of G and O, IPGMEandR-SSKM Hospital Kolkata, West Bengal, India, More than one(1) year.

**Methods and Materials:** After getting ethics approval, more than one hundred (100 Cases) ante-partum hemorrhage patients selected, randomized and allowed into two groups for management point of view by Caesarean delivery like Gr.A (N=50)=CASES- MODIFICATIONS. Gr. B (N=50) =CONTROLS – CONVENTIONAL. **Results and Analysis:** The results of individual group (Gr.AandGr.B) assessed (Pry and Sec. outcomes), analyzed, and represented with statistical significant accordingly showed better in modifications (Gr-A-CASES) which achieved 100% success to control fatal obstetric hemorrhage with zero mortality. **Conclusion:** To minimize and or eliminate maternal and newborn mortality or morbidity during caesarean section in APH always perform by MODIFICATIONS techniques.

**Key Word:** Aph-Caesarean Section- Modifications-Decreased-MmrandImr.

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## INTRODUCTION

The fatal obstetrics hemorrhage resulting from APH(placenta praevia-25%, abruption placenta -40% ,ill-health-60%) blood loss more than 2.5 liters(Blood transfusion- $\geq$ 5units) causes maternal mortality 6%-7% and morbidity 40%<sup>1,2,3</sup>. While danger of ante partum and post -partum hemorrhage had been greatly reduce by modern method of treatment fatal hemorrhage during and following birth of placenta especially during caesarean

section remain a serious complication and in a patient already exsanguinated most serious and morbid with hemorrhage and shock(6-7%),alarming hemorrhage-(33.5%),admitted-good(38%),bad(60%),preterm(27%),MMR(1.7%vs.4.4), Hemorrhage-death(0.5%). That is why this operation is acid test even in an experienced entitled and senior obstetrics surgeon. In this study it is our humble representation with modification of steps during caesarean operation in APH not only to decrease life threatening hemorrhagic complication but also reduce the maternal, newborn mortality and morbidity<sup>4</sup>. Impairments of placental circulation does not negative influence as on neonate and mother, if baby delivered within 5(five) minutes in moribund and serious condition<sup>5</sup>. After inclusion of available accepted internationally methods in this study revealed that the parameters of primary and secondary outcomes in mother and newborn at short and long term basis are better in modifications (Gr-A-CAES) adopted than conventional (Gr-B-CONTROLS) procedures. So, surgeons should perform caesarean

section after incorporation of such modifications steps and make these as recommendations.

### METHODS AND MATERIALS

After getting ethics approval patients of ante partum hemorrhage selected., randomize and allowed into two groups as per selection and exclusion criteria with **Consort Flochert:** Gr.A (N=50)=CASES MODIFICATIONS.andGr.B (N=50)=CONTROLS – CONVENTIONAL. **ELIGIBILITY-CRITERIA Case Selection:** All cases of Ante-partum hemorrhage.

#### EXCLUSION CRITERIA:-

1. Coagulation disorder.
2. Immunocompromised.
3. Associated Medical and Surgical Co-morbidities.

**Sample Size:** 66(Sixty-six).

**Place Of Study:** Department of Gynecology and Obstetrics, IPGMER - SSKM HOSPITAL. West Bengal.India.

**Period Of Study:** 1(one) year.

#### Procedure-Modifications:

- Vertical- midlines / paramesium skin incision:- Easy, quick entry and exteriorization of gravid uterus with less bleeding<sup>14</sup>.
- Engorged vessels/ sinuses will be secure separately either by ligatures or electro-surgical unit<sup>14</sup>.
- Stepwise pelvic devascularization :-The Bilateral uterine artery ligation (BUAL), Ovarian vessels ligation if require Bilateral Internal Iliac Artery Ligation (BIIAL)<sup>6,7</sup>
- Hysterotomy (Uterine) incision upper or lower segment, vertical or transverse depending upon placental location but trans- fundal preferred<sup>14</sup>

- Uterine cavity tightly packed by sterile mops after extraction of baby and placenta<sup>8</sup>.
- Routine application of compression and B-lynch stitches<sup>9, 10,11,12,13</sup>.

### RESULTS AND ANALYSIS

The results of individual group (Gr.A,Gr.B), assessed (Pry and Sec.outcome), analyzed, and represented with statistical significant accordingly. The outcomes of individual groups analyzed as primary outcome(organ damage/failure, blood loss, transfusion) ,secondary outcome(operation time ,mobilization time, oral intake time, analgesic, pain relieved and satisfaction) ,secondary outcome(wound complications, hospital stay, costs and readmission) tabulated and statistical significant calculated by GRAPH-PAD SOFTWARE in TABLE-1, TABLE-2 and TABLE-3, showed as below:- 1).Hge-68%,2).Hysterectomy required-12%, 3).BIIAL/BHAL-20%. 4).Mortality-03- cases.

**Consolidated Standards Of Reporting Trails (Consort) Statement:** Allocation done Sequentially Numbered Opaque Sealed Enveloped(SNOSE) ,where Sequence generated computerized random number generator and envelopes size, shape,weight confirmed equally having –Code-Gr-A(CASES),Code-Gr-B(CONTROLS). Aluminums foil inside envelopes was used to render envelops impermeable to light. Envelops number in advanced, opened sequentially only after participants’ name and other details written on appropriate envelopes. Envelops contains carbon papers which essential for audit trial. Must registry entry of patients ‘profile.

**Table 1:** Pry Outcome Of Both Groups (Cases Vs Controls)

Indicators	Gra=cases (n=50)	Grb=control (n=50)	Utt/fet-P-value.
Blood Loss/-(1200—1800ml)	*1200,*100,*14.14.	*1800,*300,*42.43.	<0.0001.
Hb%Drop (Pre andPost)			
PCV Drop.	*0.40,*0.05,*0.0071	*1,*0.05,*0.0071.	<0.0001.
Mops wt	*1.8,*0.1,*0.014.	*2.7,*0.05,*0.0071.	<0.0001.
Drain	*1400,*200,*28.28.	*1700,*300,*42.43.	<0.0001.
Operation after 8 hrs			
	*500,*150,*21.21.	*800,*300,*42.43.	<0.0001.
	*100,*30,*4.25..	*300,*50,*7.07..	<0.0001.
Transfusion Required:-			
Crystalloids			
Colloids	40/10	50/00	P=0.0012.
Blood	10/40(≤2)	50/00(≥4)	P<0.0001.
Platelets	03/47	40/00	P<0.0001.
FFP	03/47.	40/00.	P<0.0001.

Organ Damage and Dysfraction:-			
Uretary Injury	01	05	
Bladder Injury	03/47	12/38	
Voiding Dysfunction	03	05	P=0.0226.
Intestine Injury	01	03	
Vessels Injury	03/47.	11/39.	
Hysterectomy	00	04	P=0.0407.
Thromboembolic Manifestion			
ITU / CCU /HDU Case	5/45	20/30	P<0.0010.
Death	NIL	03	

Unpaired –t-test (UTT), Fisher Exact test(FET), \*Mean,\*SD, \*SEM.

**Table 2: Secondary Outcome**

Indicator	Gr.A- Cases-50	Gr.B-Controls-50	UTT/FET-P-Value
Operation Time	*90, *15, *2.12	*120, *30, *4.24.	<0.0001.
Mobilisation Time	*16, *4, *0.57.	*40, *6, *0.85.	<0.0001.
Oral Feeding Time	*24, *4, *0.57.	*40, *6, *0.85.	<0.0001.
Bowel Movement	*24, *4, *0.57.	*48, *6, *0.85.	<0.0001.
Severe Pain	7/43	17/33	P=0.0338.
Annalgesic Require	*24, *4, *0.57.	*48, *6, *0.85.	<0.0001.
Satisfaction	45/5 minimal	3/47 High	
Febriillness	5/45	17/33	P=0.0070.
Woundheling			
Wound Complecation	3/47	13/37	P=0.0122.
Hospital Stay	*9, *2, *0.28.	*14, *4, *0.57.	<0.0001.
Re-Admission	2	5	

Unpaired –t-test (UTT), Fisher Exact test(FET), \*Mean,\*SD, \*SEM.

**Table 3: Newborn Outcomes**

Indicators	Gr-a-cases(50)	Gr-b-controls(50)	Fet/utt- p-value.
Incision to Delivery.	10,2,.28	15,5,.71	P<0.0001.
Cried at Birth.	45/5	15/35	P<0.0001
Meconeum staining	4/46	23/27	P<0.0001.
Birth trauma	1/49	9/41	P=0.0157.
E.N.C.	3/47	25/25	P<0.0001.
APGAR SCORE:-			
7-10	40/10	15/35	P<0.0001.
4-6	9/41	39/11	P<0.0001.
BABY WEIGHT:-			
<1.5 Kgs.	7/43	37/13	P<0.0001.
1.5-2 Kgs.	5/45	40/10	P<0.0001.
2- 2.5 Kgs.	12/38	36/14	P<0.0001.
>2.5Kgs.	33/17	15/35	P<0.0001.
NICU ADMISSION	5/45	20/30	P=0.0010.
DEATH	3/47	16/34	P=0.0017.

.Mean,SD,SEM. Unpaired –t-test (UTT), Fisher Exact test(FET), \*Mean,\*SD, \*SEM.

## DISCUSSION

But in the light of modern development to deal with this condition on surgical lines –caesarean section treatment par excellence by LAWSON TAIT in 1890 far surpasses all other importance. Today while mother's safety is still primary aim in treatment is being given to recuing the child also as far as this is possible without prejudicing the well-being of mother. To control fatal obstetric hemorrhage the available effective methods (uterine packing -70%-90%,compression sutures-91%,stepwise devascularisation-84%-90%,hysterectomy-90%-94%,embolisation –not included) included with modifications (Gr-A-CASES) in this study revealed indicators of outcomes (primary andsecondary) better, superior and effective than conventional (Gr-B-CONTROLS) as per primary outcomes(organ damage/failure blood loss, transfusion) ,secondary outcome(Early)(operation time, mobilization time, oral intake time, analgesic, pain relieved and satisfaction) ,secondary outcome(Late)(wound complications ,hospital stay, costs and readmission) statistically significant showed in tables. As MODIFICATIONS are proved effective (Evidenced-Based), so these may be recommended into caesarean section by different National and International bodies

## CONCLUSION

To control fatal obstetrics hemorrhage during caesarean delivery not only challenging for surgeons but also life-threatening for patients which prevented or minimized by inclusion of internationally accepted available methods with modifications of steps during surgery revealed by this study represented in form of indicators of primary and secondary outcomes better and superior in modification(Gr-A-CASES) than conventional (Gr-B-CONTROLS) in relation to maternal and newborn morbidity and mortality.

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