

MASSIVE POSTPARTUM HAEMORRHAGE - THERAPEUTIC MODALITIES

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SUMMARY

Postpartum haemorrhage (PPH) is still a cause of massive obstetric haemorrhage. In this retrospective study, among 8926 deliveries, massive PPH occurred in 34 women. The main factors responsible for it in singleton deliveries were placenta accreta (17.6%), retained placenta (14.7%), soft tissue laceration (11.7%) and bleeding disorders (11.7%). The surgical treatment modalities are discussed.

INTRODUCTION

Massive obstetric haemorrhage continues to be an important cause of maternal mortality, even though the maternal mortality rate due to haemorrhage has declined. In developing nations, where maternal mortality rates are 5 to 10 per 1000 live births, *postpartum haemorrhage* remains a leading cause of maternal death. (Harrison, 1989)

Massive obstetric haemorrhage has been defined as the loss of a patient's blood volume in a few hours (Findley,

1987). However, complications are likely to develop long before such a loss, particularly if the loss is rapid: indeed patients may not survive the acute loss of more than 50% of the blood volume. It therefore seems appropriate to describe haemorrhage of more than 1500 ml (25-30% of the blood volume in pregnancy) as massive (Burke and Duignan 1991).

Abbreviations

PPH	: Postpartum Haemorrhage
DIC	: Disseminated Intravascular Coagulation
ITP	: Idiopathic Thrombocytopenic Purpura
MRP	: Manual Removal of Placenta
ITL	: Internal Iliac Artery Ligation
LSCS	: Lower segment caesarean section

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In the present retrospective study, the data were analysed to identify the factors associated with massive PPH and the treatment modalities offered especially the surgical approach and the methotrexate treatment.

MATERIALS AND METHODS

The study was conducted at the department of obstetrics and gynaecology. All India Institute of Medical Sciences Hospital. The records of 8926 women who delivered in last five years (1987 to 1992) were screened to find out incidence of massive PPH. The inclusion criteria were : (1) massive PPH and (2) gestation age of 20 weeks or more. The cases with PPH were analysed to find out the : predisposing risk factors, etiological factors and the individualised treatment offered to these cases.

RESULTS

There are 8926 deliveries over a period of 5 years (March 1987 to July 1992). Of these 8926 deliveries, 34 women had massive PPH. Therefore, the incidence of massive PPH is 3.8 per thousand deliveries in five years.

Table I

Age distribution in cases of PPH

Age	No. of Patients	(%)
15 - 20 years	2	(5.9)
20 - 25 years	7	(20.6)
25 - 30 years	15	(44.1)
30 - 35 years	6	(17.6)
35 - 40 years	4	(11.8)

Of these 34 cases, 13(38.2%) were primigravida at the time of delivery and 12(35.3%) were unbooked cases. The age distribution of these cases is shown in Table I. The duration of labor was not prolonged in any of these cases. The period of gestation at the time of delivery and mode of delivery in these women with PPH is shown in Table II. All women delivered a single live baby.

Of these 34 cases, 14(41.2%) had primary PPH whereas 20(58.8%) had secondary PPH.

The etiological factors for PPH are summarized in Table III. The main causes of massive PPH in the study were : Placenta accreta in 6 cases (17.6%), retained placenta in 5 cases (14.7%), trauma to birth canal in 4(11.7%), bleeding disorder in 4 cases (11.7%). Three women were receiving anticoagulant when they had PPH. More than one factor was present in a particular case.

Table II

Period of gestation and Mode of delivery in cases of PPH

	No. of Patients	(%)
* period of gestation at the time of delivery		
more than 37 weeks	30	(88.2)
28 to 37 weeks	03	(8.9)
less than 28 weeks	01	(2.9)
* mode of delivery		
vaginal	25	(73.5)
forceps	03	(8.9)
cesarean	06	(17.6)

Table III
Main Etiologic factors of PPH

Causes	No. of patients	%
Placenta accreta	6	(17.6)
Retained placenta	5	(14.7)
Trauma to birth canal	4	(11.7)
* paravaginal tears	1	
* posterior vaginal laceration	1	
* cervical tears	1	
* cervical tears with perineal laceration	1	
Bleeding Diasthesis	4	(11.7)
* DIC	2	
* Factor VIII deficiency	1	
* ITP	1	
Broad ligament Hematoma	1	(2.9)
Bleeding from placental site	2	(5.8)
Atonic uterus	2	(5.8)
Retained placental tissue	12	(35.5)

All the women with PPH were initially resuscitated and then managed accordingly. The evacuation of the uterus was done in 16 cases as a first step (Table IV). Laparotomy was performed in six cases. Different surgical procedures performed during the laparotomy are outlined in Table V.

DISCUSSION

Postpartum haemorrhage (PPH) is still a major cause of massive obstetrics haemorrhage. The incidence of 3.8 cases of massive PPH per 1000 live births can be explained by the fact that the Institute is a referral hospital.

Of these 34 cases, 35% were unbooked and this reflects the need of supervision

and expert care of a pregnant woman in the developing countries like ours. Grand

Table IV
Management of massive PPH
N = 34

Method	No. of Patients	(%)
Vacuum Aspiration (as a first step)	16	(47.0)
MRP	5	(14.7)
Laparotomy	6	(17.6)
Intrauterine Packing	1	(2.9)
Methotrexate	3	(8.8)

MRP = Manual Removal of Placenta

Table V

Surgical methods during laparotomy

Laparotomy	Diagnosis	Number
Hysterectomy	* placenta accreta	1
	* iatrogenic perforation of uterus	1
Hysterectomy + IIL	* placenta percreta	1
	* secondary haemorrhage-endometritis developed DIC	1
IIL	* broad ligament hematoma	1
Repair of uterus	* placenta accreta	1
	iatrogenic perforation of uterus	

IIL = Internal Iliac Artery Ligation

multiparity is also listed frequently as a risk factor for haemorrhage and this group is watched carefully in labor. Probably as a result of this, the PPH is not often found in this group, but far more often in the primipara (Gilbert et al 1987). Previous studies has shown that PPH is more common after induced labor, after prolonged or augmented labor, after forceps delivery and in multiple gestation.

The immediate danger to the haemorrhaging patient is inadequate circulation, and the first task is to restore circulating volume after careful assessment. The diagnosis of uterine atony is straight forward and this usually responds to the treatment with intravenous ergometrine and/or oxytocin infusion. If significant bleeding persists despite such therapy, this diagnosis must be reviewed and other causes considered. These patients need uterine exploration to exclude retained placental tissue, uterine

rupture or trauma to the uterus, cervix or vagina and then specific management.

All the 5 women with retained placenta had home deliveries. Watchful expectancy for prolonged period followed by prolonged efforts at home was usual scene for delayed reporting to the hospital.

The evacuation of the uterus can be done for retained placental tissue but the possibilities of perforation of the soft postpartum uterus and placenta accreta should be kept in mind.

A flabby uterus at cesarean is not an uncommon finding, the incidence being 18% in cases of prolonged labor especially (Newton and Newton, 1998). The uterine packing is a time tested technique (Hester, 1975), if atony fails to respond to ergometrine/synthetic oxytocin and analogues of prostaglandin F2. It is immensely valuable in efforts to conserve the uterus in women who have not completed their families yet. It may be preferable to doing a cesarean hysterectomy

on a moribund patient. In the present study, intrauterine packing was done in second gravida who delivered by LSCS for posterior wall type III placenta previa and bleeding from the placental bed persisted despite intramyometrial inj. of Prostodin (15 methyl PGF₂ alpha).

If medical and conservative treatment fails to control PPH, hysterectomy may be necessary but its performance should not be delayed until the patient is in extremis. This procedure is most effective method for dealing with haemorrhage due to persistent atony, a morbidly adherent placenta or uterine rupture. As pointed out by Clark et al (1984), it is the clinical situation in which hysterectomy is performed, and not the type of hysterectomy, that determines the amount of blood loss and operating time. Total hysterectomy was performed in the present study in all 4 cases.

Internal iliac artery ligation has received considerable attention lately. This method appears to be effective for uterine atony or midline perforation, but is less so for placenta accreta and totally ineffective for uterine lacerations. (Evans and McSchane, 1935). In this study, IIL was done in one case of broad ligament hematoma and in two women, along with hysterectomy.

Medical treatment with methotrexate

for PPH due to placenta accreta is gaining popularity now a days because of the cytotoxic nature of the drug. (Arulkumaran and Ratnam, 1986)

To conclude, effective management of postpartum haemorrhage depends upon prompt restoration of circulating volume, accurate diagnosis of the cause of the bleeding and early and appropriate therapy to arrest the bleeding. Therefore, third stage of labor requires mandatory vigilance and awareness by the attending obstetrician/birth attendants to avoid serious life threatening complication even offer normal deliveries.

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