

High Risk Factors in Maternal Mortality and Morbidity Following P.P.H.

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Summary : An analysis of cases of PPH which occurred over a period of 5 years (1991-96) at Chittaranjan Seva Sadan, Calcutta has been undertaken to identify the risk factors leading to Maternal morbidity and mortality. Factors responsible for morbidity has been highlighted and elaborated. Preventive measures of maternal morbidity and mortality in PPH have also been discussed.

Introduction :

Review of recent Indian literature reveals that haemorrhage accounts for over 25% of maternal deaths of which 30% deaths are caused by PPH (Daftary et al 1996). Maternal mortality in such condition is the end point of a long path, but many patients in this pathway who ultimately survive, run the risk of so many immediate and late complications which render life miserable from physical, Psychological and economical derangements. Unfortunately it is very difficult to estimate the extent of morbid conditions accurately. Hence morbidity due to PPH also needs study along with mortality to find out the risk factors and its prevention. The present study aims to achieve that objective.

Materials and Methods :

According to WHO (1990) and Prabhjot et. al. (1994) 600 ml of blood instead of 500 ml should be taken as PPH, which is followed in this study. The data was recorded from the medical records. Detailed history and examination findings were noted in order to find out the possible cause of PPH. Blood loss was assessed on the basis of measurement from basins and blood loss on linens, mops and sponges. During the period of 5 years (91-96) under study, there were totally 49650 confinements, of which there were 754 cases of PPH (Primary 519, Secondary 235) incidence being 1.52%.

Results :

Table I

Distribution of Cases according to age (a) and Parity (b).

Age in Years	(a)		Parity	(b)	
	No. of PPH (754)	%		No. of PPH (754)	%
Less than 20	229	30.37	P0 to P1	142	18.83
20-30	178	23.61	P2 to P3	345	45.76
Above 30	347	45.76	P4 to above	267	35.26

Table II

showing causes of haemorrhage with Number & %

1. Atonic uterus	352 (46.68%)
2. Ragged membrane	103 (13.6%)
3. Retained Placenta	40 (5.37%)
4. Vaginal injury	36 (4.77%)
5. Cervical tear	26 (3.49%)
6. Perineal tear	11 (1.42%)
7. Placenta Praevia	5 (0.6%)
8. Secondary PPH	181 (24.01%)

Table III

showing the present obstetric risk factors

Antenatal factors	No. & %	Intranatal factors	No. & %
1. Unbooked	292 (38.7%)	Prom	164 (21.75%)
2. Hb less than 8 gm%	215 (28.5%)	Occipito-Posterior or Transverse position	70 (9.28%)
3. Associated Medical causes	71 (9.4%)		

Present Labour

Stage I was prolonged for more than 12 hours in 273 (36.2%) cases, Stage II was prolonged for more than 1 hour in 191 (25.33%) cases due to occipito-posterior or Transverse position mostly in primigravida, or birth weight more than 3.2 kg. in 79 (10.28%) cases.

Amount of Blood Loss :

600 to 799 ml in 111 (14.7%), 800 to 999 ml in 350 (46.7%), 1000 to 1199 in 113 (14.8%) and more than 1200 ml in 113 (14.8%) cases.

Past Obstetric History :

Single event such as previous PPH in 20 (2.6%), foetal death in 35 (4.6%) and previous stillbirth in 15 (2%) cases.

Table IV
Showing maternal mortality

Total Delivery	Total live births	Total Maternal death	Deaths in PPH	Incidence
49650	48172	66	9(13.63%)	18.68 per 100000

Causes of Maternal Death (9) in PPH :

Placenta Previa (Central) - 1, atonic uterus - 1, after Caesarean hysterectomy, due to placenta increta - 2, Shock in 5 cases who are transferred from outside in moribund condition, urgent treatment failed to save their lives.

Maternal Morbidity in PPH :

Total 451 (59.8%) amongst 754 cases of PPH, out of them puerperal sepsis including wound infection, endometritis, peritonitis in 301 (40%) cases, Urinary tract infection in 113 (15%) cases, Paralytic ileus in 13(1.72%)

cases and burst abdomen in 4(0.52%) cases. Remaining 20 (2.5%) cases suffered from other causes like general debility etc.

Table V
Showing correlation between high risk factors and morbidity

Risk Factors	No. of cases	Types of mortality	No. of cases	%
1. P.R.O.M.	102	Puerperal sepsis	46	45.6%
2. Anaemia	133	Puerperal Sepsis	87	46.88%
3. Prolonged Labour	369	UTI	113	30.8%
4. Vaginal Laceration & cervical tear	42	Dyspareunia (Late complication)	11	26%
5. Retained Placenta	29	Puerperal sepsis	16	51%
6. Secondary PPH	79	Puerperal sepsis	38	47%

Discussion :

Higher incidence of PPH was observed in elderly patients above 30 years (45.76%) in this series. This may be due to age related changes in connective tissue, diminishing the ability of cervical, vaginal and perineal muscle to stretch resulting in greater chance of trauma to tissues, prolonged labour and reduced uterine contractility (Prabhjot et al 1994). Reed (1988). Hal et al (1985) reported increase risk of PPH in multipara but Gilbert et al (1987) observed higher incidence in primipara. Poor obstetric history has bearing on the occurrence of PPH in this study as that of Hall et al (1985) Anaemia (Hb% below 8 gm%) is associated with maternal mortality and morbidity of TSU (1993), 38.75% cases in this series had no proper antenatal care, which might have influenced this outcome of PPH. Gilbert (1987) reported 4 fold increase of PPH if the 1st stage is greater than 12 hours and three fold risk if 2nd stage is more than 1 hour. In this study 1st & 2nd stage were prolonged in 273 and 191 cases respectively. Atonic uterus (46.68%) was responsible for majority of cases of PPH. Patwardhan (1996) reported 76.81% of PPH due to atony. Different types of injury to the birth canal altogether were responsible in 9.68% cases and Occipito posterior position

was responsible in 9.28% cases against 9.28% of PPH of Prabhjot et al (1994). Maternal mortality due to PPH was 13.63%, significantly less (33.3%) of Swain et al (1996), though blood bank facilities is lacking in this hospital. Most of these cases (5 out of 9) were admitted in moribund state from outside.

Maternal Morbidity following PPH were 59.8% in which puerperal sepsis topped the list followed by UTI. (Table V) shows anaemia was the leading factor (46.8%) followed by PROM (45.69%), prolonged labour (30.5%) injury to birth canal (26.19%) following PPH resulted in significant number of immediate and Late complications. Blood loss if not adequately replaced results in chronic anaemia or produce further deterioration of anaemia condition, which including low general condition etc are mainly responsible for such morbidities like sepsis, burst abdomen, whereas operative procedure on emergency basis on birth canal sometimes by less experienced persons may result in late complication like dyspareunia. Lenox (1984) reported 70% complication in risk pregnancies and described high morbidity mostly due to prolonged labour, multiple vaginal examination. PROM, and anaemia. Puerperal sepsis and U.T.I. were common morbidities described by Chaturvedi (1986) with P.R.O.M., prolonged labour, anaemia and lack of antenatal care. In this series we observed such condition to help in the development of morbidity more frequently. Many of these patients had combined morbidity like sepsis, U.T.I. and paralytic items or burst abdomen.

Conclusions :

To prevent mortality and morbidity in PPH, the following measures should be adopted (1) Regular and adequate

antenatal check up to control anaemia, any form of infection etc. during pregnancy (2) A septic vaginal examination during labour as minimum as possible (3) avoidance of prolonged labour (4) Prophylactic use of medicine for control of PPH (5) Any form of operative procedure should be performed or guided by experienced person (6) Adequate replacement of blood loss (7) Measures should be taken for subsequent recovery. This intelligent anticipatory early intervention with proper planning is needed.

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