

## Postpartum Care – ‘A Neglected Tragedy’

Joydev Mukherji, Rajendra P. Ganguly, Sudip K. Saha, Samir Ch. Ghosh Roy

*Department of Obs. & Gyn., North Bengal Medical College, Darjeeling.*

### Summary

A 5 year review of 405 maternal deaths found 263 (65%) deaths occurred postpartum compared to 114 (28%) in antepartum & 28 (7%) in the intrapartum period. Majority of the post partum deaths viz., 225 (85.5%) occurred in the first week, the first 24 hours alone accounting for 124 (47.1%) of the 263 deaths. Hypertensive disorders 89 (33.8%), haemorrhage 82 (31.2%), jaundice in pregnancy 35 (13.3%), anaemia 8 (3%) & sepsis 15 (5.7%) were the leading causes of postpartum deaths.

Disease wise breakup shows that in PIH 89 out of 117 maternal deaths (76%) occurred postpartum. Of the 112 haemorrhage deaths 82 (73%) & of the 63 jaundice deaths 35 (56%) occurred after delivery. While 8 of 17 deaths in anaemia, & 12 of 17 deaths of heart disease occurred in the post partum period.

Only in sepsis is death more common in the antepartum period i.e. 31 out of 48 (64.6%). This is due to the large number of septic abortion deaths.

Careful attention to the postpartum period can bring down maternal mortality.

### Introduction

Of the estimated 150 million deliveries which occur annually globally 585000 women die (equivalent to one every minute). Over 98% of these deaths occur in the developing countries (Pittrof & Johanson 1996) of which our country is a significant contributor. Much attention has been focused on prenatal care for preventing maternal mortality; though over half of all maternal deaths occur in the postpartum period. So postpartum care requires immediate and intense attention.

This study analyses postpartum deaths with respect to their distribution against time, causes and period of gestation. The period of highest risk and the important risk factors are also highlighted.

### Materials and Methods

A retrospective analysis during the period June 1988 to June 1993 was made from the case records in Eden Hospital, Medical college, Calcutta. There were 38,870 deliveries of which 405 mothers died during pregnancy, labour or within 42 days after delivery. Abortion (including induced or spontaneous) deaths are traditionally categorized as antepartum (Li et al 1997), and we have followed the same convention.

### Results

Table – I shows the percentage distribution of maternal deaths during pregnancy (antepartum), during delivery (intrapartum) and in the postpartum period. The majority of deaths (65%) occurred during the

postpartum period.

**Table – I**  
Overall distribution of maternal deaths by time.

Maternal Deaths	Number	Percentage
Antepartum	114	28
Intrapartum	28	7
Postpartum	263	65
Total	405	100

The postpartum period (42 days) has been divided into six intervals (Table – II). 47.1% postpartum deaths occur on the first day (within 24 hours) and 85% occur in the first week of puerperium.

Table – III shows that about 70% of postpartum deaths are caused by the traditional three direct causes; PIH complications (33.8%), haemorrhage (31.18%) and infection (5.7%). Table – IV shows that in all kinds of causes of maternal deaths, first week postpartum remains the period of highest risk.

**Table – II**  
Distribution of postpartum deaths.

The day of Maternal deaths After delivery	0 - 1	2 - 7	8 - 14	15 - 21	22 - 30	31 - 42	Total
Number	124	101	23	10	2	3	263
Percentage	47.1	38.4	8.74	3.8	0.8	1.1	100

**Table – IV**  
Distribution of postpartum maternal deaths by causes and time.

Causes	Number of Deaths (Percentage)			Total	
	0 - 7 Day	8 - 28 Day	29 - 42 Day	Number	Percentage
A: Direct causes					
1. PIH Complication	79 (88.7)	10 (11.3)	-	89	100
2. Haemorrhage	71 (86.5)	10 (12.2)	1 (1.3)	82	100
3. Sepsis	8 (53.3)	7 (46.7)	-	15	100
4. Anaesthetic complication (during LSCS)	7(100)	-	-	7	100
5. Pulmonary embolism	5(100)	-	-	5	100
B Indirect Causes					
1. Jaundice	28 (80)	7 (20)	-	35	100
2. Heart disease	11 (91.7)	1 (8.3)	-	12	100
3. Anaemia	8(100)	-	-	8	100
4. Other (Malaria, pulmonary Kochs etc.)	7(100)	-	-	7	100
C: Unknown	2 (66.6)	-	1 (33.3)	3	100
Total:				263	100

**Table – III**  
Causes of postpartum maternal deaths

Causes	Number	Percentage
PIH Complications	89	33.8
Haemorrhage	82	31.2
Infection	15	5.7
Anaesthetic complication during LSCS	7	2.7
Embolism	5	1.9
Others (Indirect causes)	65	24.7
Total:	263	100.0

An analysis of the maternal deaths from all the leading causes reveals (Table – V) that postpartum deaths outnumber the antepartum and intrapartum ones. Only in sepsis related deaths is the antepartum period more common, due to septic abortions being the major contributor. In anaemia the deaths are almost evenly distributed in the antepartum and postpartum categories.

**Table – V**  
**Distribution of leading causes of maternal death by time.**  
**Maternal Deaths :**

	Time of maternal death			Total no. of deaths
	Antepartum	Intrapartum	Postpartum	
1. PIH complications	14 (12%)	14 (12%)	89 (76%)	117
2. Haemorrhage	21 (19%)	9 (8%)	82 (73%)	112
3. Sepsis	31 (65%)	2 (4%)	15 (31%)	48
4. Jaundice	26 (41%)	2 (3%)	35 (56%)	63
5. Anaemia	9 (53%)	-	8 (47%)	17
6. Heart disease	4 (23%)	1 (6%)	12 (71%)	17

## Discussion

The most vulnerable time for maternal death is the postpartum period during which 60% deaths occur (Mathai 1999). In our study 65% maternal deaths occurred in the postpartum period. Unfortunately, postpartum period is the most neglected period. In developing countries, while 65% of all women have some form of antenatal care, 53% receive intranatal care, only 30% receive postpartum care (Mathai 1999).

In this study 124 (47.1%) mothers died within 24 hours of delivery and 225 (85.5%) died in the first postpartum week. The first week after childbirth is therefore the period of high risk, the first 24 hours being most critical.

The time of death is strongly influenced by the cause of death. PPH can kill a healthy woman within 2 hours while other complications may take longer to cause death, (Pittrof & Johanson 1996). PPH accounts for more than 75% of serious postpartum complications encountered within the first 24 hours of delivery (George and Crandon 1990). In our study, of the 124 mothers who died on the first day puerperium, 41 (33%) died of PPH.

Haemorrhage, sepsis, eclampsia and obstructed labour account for 80% of all maternal deaths worldwide (Abou Zahr 1998). In our study PIH, haemorrhage and sepsis were responsible for 70% of the postpartum deaths.

Though prevention and treatment of anaemia, hospital delivery as far as possible, appropriate and active management of 3<sup>rd</sup> stage and judicious use of oxytocics are important, comprehensive emergency obstetric care carried out through a well distributed accessible network of 'first referral units' is the most crucial element to save maternal lives from postpartum haemorrhage. Good antenatal care alone has little value in reducing maternal mortality unless linked to efficient

emergency obstetric care (Weil & Fernandez 1999). Providing antenatal care alone may be the least cost effective of the various interventions that have been used to reduce maternal death (Maine, 1991).

Most maternal deaths in hypertensive disorder occur postpartum (Walker 2000). In our series 89 (76%) of the 117 maternal deaths in P.I.H. occurred postpartum. The two leading causes of death in eclamptic patients are cerebrovascular accident and pulmonary oedema. With extensive use of antihypertensive drugs, pulmonary oedema has overtaken cerebral haemorrhage as the leading cause of deaths in eclampsia (Department of Health 1998).

In our study out of 71 cases of postpartum deaths in eclampsia, in which the cause of death could be ascertained, 31 (44%) died of cerebrovascular accident and 21 (30%) died of pulmonary oedema. Most cases of pulmonary oedema in eclampsia occur in the postpartum period (Walker 1998).

Medical staff at all levels should be trained and retrained in identification of preeclampsia and symptoms of impending eclampsia.

Sepsis is probably the most preventable of all postpartum complications. Vigilant attention to hygiene during delivery is of the utmost importance in preventing sepsis.

It is crucial that obstetric staff and birth attendants observe the newly delivered women closely during the first postpartum day.

Problems detected at home should be referred as soon as possible to an appropriate level of care.

## Conclusion

Given the preponderance of maternal deaths occurring in the postpartum period, it is surprising that

postpartum care has received so little attention compared with antenatal and intrapartum care. Safe motherhood programmes should not neglect this crucial period in their planning for training, continuing education, and allocation of resources.

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