

MATERNAL MORTALITY DUE TO HAEMORRHAGE

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In India the important causes of maternal mortality are sepsis, abortion, toxæmia and haemorrhages. With the advent of potent antibiotics and with the liberalisation of Abortion Laws, sepsis is now being better controlled and mortality following abortion is being reduced. Haemorrhages are gaining importance as deaths due to them can be minimised. Hence this study is undertaken to sort out the possible avoidable factors for future guidance.

Material and Methods

Thirty-six deaths occurred due to haemorrhages amongst 232 total maternal deaths in Eden Hospital, during 3 years, 1975 to 77. In this period 26,638 births took place and maternal mortality rate was 8.8 or 7.29/100 births including or excluding abortion deaths. These 36 cases are analysed.

Observations

Haemorrhages caused 11, 12 and 13 deaths in 1975, 76 and 77 when total maternal deaths were 90, 83 or 59 respectively. The percentages of deaths being 12.2, 14.4 and 22.0 (average 15.5). Thus the percentages of deaths due to haemorrhages are on the increase.

Amongst total 36 deaths, abortion (7), ectopic (1) and vesicular mole (2) constituted 22.7% mortality (10 cases). Placenta praevia, accidental haemorrhage, postpartum haemorrhage and ruptured uterus respectively were responsible for 1 (2.7%), 6 (16.6%), 14 (38.8%) and 5 (13.9% deaths respectively. Half of the postpartum haemorrhage deaths (7, 19.4%) were in patients having retained placenta. Excluding the 10 deaths due to abortion, ectopic and mole the percentages of deaths due to placenta praevia, accidental haemorrhage, postpartum haemorrhage and ruptured uterus work out as 13.86, 23.1, 53.8 and 19.2 respectively amongst 26 deaths. Postpartum haemorrhage was then the important cause. During this period 583 cases of postpartum haemorrhage including those with retained placenta (257) were treated in this hospital. The percentage of deaths amongst these admissions was 2.4. During this period 543 cases of antepartum haemorrhage were also admitted wherein 7 deaths occurred, resulting in 1.3% mortality. Amongst 24 admissions of ruptured uterus cases, 5 died, causing 20.8% mortality. Thus 26 deaths occurred amongst total 1147 admissions of haemorrhagic cases (excluding abortion and vesicular mole) the overall percentage of deaths being 2.26.

Thirty (83.4%) cases were unbooked and 26 (72.3%) had rural background. Twenty-nine (80.5%) were Hindus and

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23 (63.9%) belonged to middle class. These were also the approximate figures of hospitalised patients in respective groups.

Table I shows that haemorrhagic deaths occurred more frequently in patients aged between 21 and 30 and in multi or grandmultis. However, the death rates among grandmultis (36%) were much higher compared to their percentages of hospital admissions (8%). The age group however corresponded with their hospital admissions.

died on account of heart failure and the remaining 3 (8.3%) died due to renal failure, 1 after blood transfusion reaction.

In the present series maximum deaths 53.8% excluding abortions etc. occurred due to postpartum haemorrhage, 9 (64.28%) of them were admitted after home confinements within 12 hours of delivery. Four of these 9 patients had retained placenta, who died due to irreversible shock, 15 minutes to 2 hours before availability of blood. Amongst 3 cases of

TABLE II
Distribution of Obstetric Condition According to Age and Gravidity

Obstetric conditions (No.)	Age groups in year				Gravidity		
	Upto 20	21-30	31-40	Above 40	Primi	2-4	5th and above
Abortion, Ectopic, mole (10 cases)	2	6	1	1	2	5	3
Placenta praevia (1)	—	1	—	—	—	—	1
Accidental hge (6)	—	3	2	1	—	3	3
Postpartum hge (7)	3	2	2	—	1	4	2
P.P.H. with retained placenta (7)	1	3	3	—	1	4	2
Ruptured uterus (5)	—	2	2	1	—	3	2
Total and %	6(16.4)	17(47.2)	10(28)	3(8.2)	4(11)	19(53)	13(36)

Admission and Death Intervals

Amongst 36 or 26 cases including or excluding abortion etc. (10 cases) 7 (19.4%) or 6 (23%) deaths occurred within 1 hour of admission, another 7 (19.4) or 6 (23%) died within next 5 hours. Another 5 (13.8%) cases amongst these 2 groups died within next 19 hours (Total deaths within 24 hours, 19 or 17). Seven died between 1 to 4 days. Remaining 10 (27.8%) or 4 (15.4%) died within 4 to 10 days.

Terminal Causes of Deaths

Twenty-six (72.2%) died due to irreversible shock, 3 (8.3%) deaths occurred due to coagulation failure, 4 (11.1%)

retained placenta in hospitalised confinements 1 had placenta accreta. Two of these 3 cases died due to non-availability of blood at critical time and another died due to transfusion reaction.

Majority of the cases of accidental haemorrhage died within 48 hours of admission.

All the 5 cases of ruptured uterus were admitted with shock and haemorrhage and died within a short time due to irreversible shock.

Discussion

Haemorrhage caused 15.5% of total maternal deaths during 1975-77 in Eden Hospital. Though this rate was lower

than earlier 3 year period of this hospital as reported by Roy Chowdhury (1976) it became obvious that percentage of haemorrhagic deaths has an inverse relationship with total maternal deaths. This suggested that deaths due to haemorrhage either remained constant or increased when deaths due to other causes are declining.

Maternal death rates due to haemorrhages have been reported to range between 85 to 33.5% by different workers (Roy Chowdhury, 1976; Masani *et al* 1962, Shah and Pandey, 1969, Heera and Das (1973). Rao (1978) reported haemorrhagic maternal deaths of other teaching institutions of India as 16% for Bombay (1975), 26% for Madras (1975), 24% for Delhi (1970) and 27% for Madurai (1972) against 15% of this own.

Maternal deaths due to antepartum and postpartum haemorrhages in the present series excluding abortions etc. were 26.9 and 53.8% respectively amongst total haemorrhagic deaths. Motashaw *et al* (1978) reported maternal deaths due to haemorrhages by type for the city of Bombay (1968-72) as postpartum, 40.9%, retained placenta, 20.4%, accidental haemorrhage, 17.20%, placenta praevia 16.1% and miscellaneous, 5.4%. The percentage of maternal deaths due to accidental haemorrhage in the current series (23.1) was higher and the deaths on account of placenta praevia: (3.8%) were lower than that reported by Motashaw *et al* (1978).

In this series it has been observed that the risk of haemorrhagic deaths increases with age and parity and grandmultis seemed to be specially vulnerable. Of the deaths 65.2% occurred within first 24 hours of admission. Fitzgerald and August (1953) and Shah and Pandey

(1969) reported respectively 50 and 85% deaths within 24 hours.

More than 80% cases were unbooked here, however socio-economic condition played no influence. Jhirad (1955) observed a relation between these deaths and economic conditions.

The critical analysis of these deaths in this series suggested that deaths due to placenta praevia are less frequent, those due to accidental haemorrhage have not declined and those due to postpartum haemorrhage are on the increase, probably due to hypofibrinogeneamia or other ill understood coagulation factors.

It appears that there were avoidable factors in at least 13 cases of P.P.H. (excluding 2 of coagulation failure), in 5 cases of ruptured uterus, in 1 case of placenta praevia and in majority of the cases of accidental haemorrhage, totalling 22 cases amongst 26 (84.6%); similar were also the observations of Roy Chowdhury (1976).

Maternal deaths due to haemorrhage are avoidable if (1) adequate antenatal care is taken, (2) if high risk cases are hospitalised and (3) if adequate blood and fibrinogen is available with facilities for estimations of coagulation factors. It may be concluded that amongst all causes of maternal deaths, deaths due to haemorrhages should be the first to draw maximum attention as haemorrhage is a preventable cause.

Summary

Thirty-six cases of haemorrhagic maternal deaths have been analysed. Postpartum haemorrhage was found to be responsible for 53.8% deaths. Preventive factors have been discussed.

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