

### GROUP III

## MATERNAL DEATHS DUE TO ASSOCIATED DISEASES

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#### HEART DISEASES COMPLICATING PREGNANCY

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#### ROLE OF ANAEMIA IN MATERNAL MORTALITY

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#### MATERNAL DEATHS DUE TO CARDIAC AND VASCULAR DISEASES

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#### MATERNAL MORTALITY IN EPIDEMIC OF VIRAL HEPATITIS

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#### MATERNAL DEATHS DUE TO HEART DISEASE

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#### MATERNAL MORTALITY—A REVIEW OF DEATHS DUE TO ASSOCIATED DISEASES

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These six papers from Bombay, Calcutta, Delhi and Serampore (West Bengal) stress the importance of associated diseases as a cause of maternal death. They attribute these to the malnutrition, ignorance and neglect

of proper antenatal care inherent to a poor socio-economic background.

#### *Anaemia*

Chatterjee *et al* have investigated 200 mothers with a haemoglobin less

than 10 gm% during labour and puerperium. Of these 80 had moderate anaemia (Hb. 5 gms to 7.5 gm%) and 44 had severe anaemia (Hb. less than 5 gm). Labour was premature in 95.5% and usually short, with vaginal delivery in 98.5%. All cases with severe anaemia had some other complications, the main complications were cardiac failure, hypertension and infection. Morbidity was 53.5%, mortality 6% (12 cases) and foetal loss 36.5%.

Of the 12 deaths—5 were due to cardiac failure in labour, 4 to shock and post partum haemorrhage in the third stage and puerperium and 3 to infection in the puerperium; hence the importance of care in the management of the third stage.

While the over all maternal mortality has declined from 4 to 2.8/1000 in 8 years, anaemia continues to account for 30% of all deaths.

#### *Heart Disease*

It ranks third after sepsis and anaemia as a cause of maternal death (Heera); it can be expected that in future years cardiac cases will increase in relative importance because of a reduction of deaths from infections and anaemia (Decruz *et al*).

Since rheumatic valvular disease is by far the commonest the discussions are mainly on this condition.

*Heart failure:* The failure rate of 35% is 10 times higher than other reported series of cardiac cases. The onset of severe heart failure from the end of the first trimester till term with a sharp increase in the puerperium corresponds closely with the haemodynamic changes of pregnancy

and puerperium shown by Walters (1966) and Less (1967). These cases, by virtue of their complete lack of antenatal care, therefore represent the natural course of heart disease in pregnancy (Heera).

The highest incidence of decompensation of 43% was in second gravida, that is, after the patient has borne one child. The decline in incidence of decompensation in multipara perhaps reflects the milder nature of disease in patients who have attained higher parity (Asher).

#### *Outcome of pregnancy*

*Foetal loss:* The over all foetal loss was 21.7% with perinatal mortality rate of 14.5%. This is attributed to intrauterine anoxia and prematurity (Asher).

*Maternal Deaths:* Rates of 8.3% (Asher) and 15% (Heera) are reported. Of 73 deaths in 4 papers, 39, 52% were in the postpartum period. Puerperal sepsis and anaemia were the main precipitating causes of these deaths. Of the 64 deaths analysed, 58 were due to cardiac failure, 5 to embolism (cerebral or pulmonary), one to subacute bacterial endocarditis and one to T.B. meningitis. A third of the deaths occurred less than 24 hours after admission (Decruz), a third were admitted in severe heart failure after delivery at home (Heera).

Decruz *et al* have tried to ascertain how serious a hazard pregnancy carried for women suffering from chronic rheumatic valvular disease. From the case records of deaths in hospital over a 10 year period it was found that 20% of fatalities in rheu-



matic cardiacs of childbearing age occurred during pregnancy or puerperium. The average age of death of this group was 27.6 years while the average age at death in women not pregnant or puerperal at the time of death was 33.7 years. Obviously many of the latter women had survived one or more pregnancies previous to their demise from heart disease. No comparison could be made between the average duration of life of multiparous and rheumatic cardiacs due to insufficient data in the case records.

There was no difference in the average age at death of all women (32.6 years) and men (31 years) with rheumatic cardiac disease over the same period.

**Cardic Surgery:** In the series of Asher *et al*, 16 cases had undergone surgery, 10 commisurotomies, one pericardectomy, 3 vascular grafts, 2 for patent ductus arteriosus and one for atrial septal defect. Though surgery improved their performance, the operated cases required the same

careful observation in pregnancy and labour as an unoperated case.

#### *Vascular Deaths*

In contrast to cardiac deaths the various vascular diseases responsible for maternal death occurred suddenly and unexpectedly without warning, mostly in the puerperium and very probably would not have been prevented by adequate antenatal care.

Cerebro-vascular accidents account for the bulk of cases in this group (14 out of 19 cases Decruz). Pal *et al* have described 2 cases of pulmonary embolism. They have commented on the sudden onset, relation to caesarean section and the probability that the embolus was due to dislodged blood clot from the uterine sinuses.

#### *Viral Hepatitis*

Khan has reported on 162 cases of viral hepatitis seen during an epidemic in the Hooghly District in 1967-68. Of these 80 (50%) were seriously affected, with 10 deaths. 53% were in the 3rd trimester. Nine

*Composite Table of cases reviewed*

Author	Years	No.	Incidence	Failure/ decompensation rate.	Deaths	Death rate	Deaths due to Rh. Ht. Disease.
Asher <i>et al</i> (Bombay)	1959-68	120	0.53%	Lowest 24% (primi) Highest 43% (para 2)	10	8.3%	7
Heera (Delhi)	1962-68	197	0.5%	71 cases 36%	30	15%	21
Decruz <i>et al</i> (Bombay)	1958-67	..	..	..	29	..	20
Pal <i>et al</i> (Calcutta)	1966-68	..	..	..	4	..	4

patients, all in the 3rd trimester, had deep coma; of these 3 survived. The routine treatment was intravenous drip of dextrose saline, parenteral tetracyclin, vitamin C and B complex, and intragastric drip of neomycin in 5% dextrose.

Twenty-three had haemorrhage—6 ante partum haemorrhage 16 post partum haemorrhage and one cerebral haemorrhage with hemiplegia. Anaemia was a common feature.

*Liver biopsies* performed in most cases revealed complete disruption of trabeculae, liver cells swollen with

eosinophilic cytoplasm, necrosis limited to centre of lobule, and periportal and centrilobular white cell infiltration. There was no evidence of fatty change in any case. In fatal cases autopsy revealed wide spread necrosis of the entire lobule typical of acute hepatic necrosis; Sheehan's description of acute yellow atrophy was not seen. The poor prognosis of infective hepatitis in pregnant women, specially those with gross malnutrition and anaemia, is stressed and prophylactic use of gamma globulin in pregnant women recommended during epidemics.