

OBSERVATIONS ON AUTOPSY FINDINGS IN 92 FOETAL AND NEONATAL DEATHS IN LATE TOXAEMIAS OF PREGNANCY

by

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To find out the cause and mode of death of foetus in cases of late toxæmias of pregnancy, autopsy was performed in 92 cases of foetal and neonatal deaths. Consent for post-mortem examination was obtained in these 92 cases out of 165 foetal and neonatal deaths in toxæmias of pregnancy during one year period (August 1957 to July 1958) at N.R.S. Medical College Hospitals, Calcutta. During this period there were 1647 cases of toxæmias of late pregnancy. Thus uncorrected total foetal loss was 10%.

The present paper is based on the autopsy was possible. The discussion will be based only on autopsy findings and not on the histological examination.

Autopsy Findings

Of the 92 babies, 55 were stillborn, 7 being macerated and 48 fresh stillborn. Of the stillborn series, 33 babies were premature and 22 were mature.

Neonatal death occurred in 37 cases, out of which 6 babies were mature and 31 premature.

Of the total 92 babies, 64 cases, i.e. 69.5%, were premature (below

5½ lbs.); 40 weighed below 4 lbs. and 24 babies weighed between 4 and 5½ lbs.

Intracranial haemorrhage was found in 32 babies. 22 of these babies were premature and 10 were fullterm. Subdural haemorrhage was found in 9, intraventricular haemorrhage in 4 and haemorrhage in base of brain was found in 5 cases. In 14 cases haemorrhage was found in subdural region as well as at the base of the brain.

Congenital anomalies were found in 4 babies, 2 were stillborn and 2 had neonatal deaths. Hydrocephalus spina bifida, exophthalmos of one eye, polycystic kidneys, patent inter-ventricular septum, microstoma with agnethia and ears on either side of neck were the type of abnormalities.

Congenital syphilis was found in one case.

Pulmonary infection was present in 2 cases and *pulmonary haemorrhages* in one case.

Signs of asphyxia were present in 69 cases. 44 babies were stillborn; of these 18 were mature babies. 25 babies had neonatal deaths, of which 20 babies were premature.

No obvious abnormality was found on naked eye examination in 11 babies, of which 3 were stillborn and 8 neonatal deaths. Of the neonatal

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deaths 13 babies died on the 1st day and 24 died within 2 to 7 days.

cases of eclampsia and 2 cases of hypertension.

Relevant Clinical Data of Pregnancy and Labour in 92 cases

(1) *Maturity of Pregnancy.* Pregnancy was below 32 weeks in 23 cases and between 33-36 weeks in 16 cases. In 53 cases the duration was between 36 weeks to term. There was no postmature case.

(2) *Age of Patient.* Below 20 years, 14 cases; between 21-30 years 29 cases and above 30 years, 12 cases.

(3) *Parity.* 25 cases were primiparae, 52 cases between 1-5 gravida and 15 cases above 5th gravida.

(4) *Severity of Toxaemias.* B.P. was between 130-160 mm. systolic in 70 cases, between 160-190 in 17 cases and above 190 in 5 cases.

(5) *Associated Abnormalities.* Anaemia was associated with toxæmia in 49 cases where the Hb was below 60%. In 14 cases the Hb was below 30%. Twins were present in 14 cases and hydramnios in 8 cases. Pelvis was contracted in 3 cases. Malpresentation like breech in 9 cases. Maternal infections like fever, pulmonary infection and diarrhoea was present in 7 cases. One case was syphilitic. Placenta praevia was in 1 case and accidental haemorrhage in 9 cases. Uterine inertia was present in 12 cases. These abnormalities explained foetal loss solely in some cases and partly in other cases.

(6) *Mode of Delivery.* Normal vaginal delivery occurred in 73 cases. Forceps delivery in 14 cases, breech extraction in 2 and caesarean section in 3 cases.

(7) *Nature of Toxaemias.* There were 82 cases of pre-eclampsia, 8

Causes of Death

Correlation of the postmortem findings and the clinical data gives the clue as to the probable cause of death of the babies.

First group of cases consists of those where the death was due to abnormalities other than toxæmia. In this group belongs:

(a) Intracranial haemorrhage due to difficult labour, due to contracted pelvis, operative deliveries like forceps, breech extraction, trial labour, uterine inertia. There were 12 such cases.

(b) Congenital abnormalities caused death in 4 cases.

(c) Pulmonary infection caused death in 2 cases.

(d) Syphilis in one case.

Thus in above 19 cases death was due to nontoxæmic causes.

In the second group of 73 cases, toxæmia directly or indirectly was possibly the cause of death. There were different ways in which the death was caused.

(a) Accidental haemorrhage was present in 9 cases and these were due to toxæmia.

(b) Intracranial haemorrhage was found to be spontaneous and non-traumatic in origin in 20 cases. Most of these babies were premature and toxæmia and prematurity possibly caused the haemorrhage.

(c) Asphyxia. Signs of asphyxia, like petechial haemorrhages in multiple organs were found in 33 cases.

(d) Nothing obvious. No evident abnormality could be found in 11 cases in naked eye postmortem exa-

mination. Histological examination may throw some light on some of these cases. Thus out of 92 cases, in 73 cases the foetal death appeared to be due to toxæmia.

Discussion

Foetal mortality in toxæmias of pregnancy is still very high. Some have reported uncorrected foetal mortality of 19.7% (Jeffcoate). Mortality rises steeply when the pregnancy is below 36 weeks. Some have reported mortality of 30-50% in premature babies. In our series prematurity was high—69.5%. Though most of the cases were treated conservatively and deliberate induction of labour was rarely performed, incidence of spontaneous premature delivery was high. In toxæmic cases, prematurity carries higher mortality. Apart from the usual hazards inherent in all premature babies, in toxæmic cases, asphyxia and intracranial hæmorrhages are more prone to occur. In a good percentage of our series, moderate and severe anaemia complicated the toxæmia and this factor made the position worse. Severe anaemia was responsible for premature labour and intra-uterine death of the foetus. In toxæmic cases, placental separation and placental insufficiency cause foetal death in considerable number of cases. Carey found 3% of the stillbirths in pre-eclampsia due to placental factor. Hæmorrhages in our series were mainly intracranial

and there was no suprarenal or hepatic hæmorrhage. Of the neonatal causes, prematurity was the main factor responsible. Gross evidence of infection has not been found at autopsy, though histological examination of the lungs is likely to reveal evidence of infection.

Conclusion ✓

(1) Findings at autopsy of 93 foetal and neonatal deaths in late toxæmias of pregnancy are reported.

(2) Clinical findings and autopsy findings are correlated and probable causes of death are discussed. In 19 cases death was due to non-toxæmic causes. In 62 cases, toxæmia caused death by producing accidental hæmorrhage, intracranial hæmorrhage and asphyxia. In 11 cases no obvious cause could be determined.

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