

TOXAEMIA OF PREGNANCY—MULTIDISCIPLINARY APPROACH

by

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Introduction

Toxaemia of pregnancy is a very common complication, being seen in 6-7% of all gravidas. They are associated with a high perinatal mortality rate. However, the huge toll of maternal and foetal life taken by toxaemia of pregnancy is preventable.

Material, Method and Results

We have studied 45 indoor antenatal cases of toxaemia of pregnancy treated at L.T.M.G. Hospital, Bombay from the year April 1978 to April 1979.

According to the severity of symptoms and signs, 15(33%) had mild pre-eclampsia and 30 (67%) had severe pre-eclampsia. One patient had suspected renal artery stenosis and 2 had essential hypertension.

In addition to various usual investigations such as Hb., urine, VDRL, blood urea blood sugar, fundoscopy was studied in 22 cases. 11(50%) had normal fundoscopy, whereas an equal number of cases showed abnormalities like papillae-dema (2), bitemporal pallor and AV nicking (1), arteriolar spasm (2), grade 1

change (3), grade 2 change (2) and retinal detachment and exudate (1).

We encountered urinary infection in 38% of our toxaemic cases. Impaired renal function was seen in only 1 case of suspected renal artery stenosis. Here the serum creatinine was 4 mg%.

Following measures were taken in our cases.

- (1) Rest in left lateral position.
- (2) Sedatives—usually phenobarbitone was used.
- (3) Diuretics only in the presence of edema. Undue and unchecked diuretics are dangerous. Mostly frusemide 20 to 40 mgs. tablet or esiderex 25 mgs./day for 5 days in a week was used.
- (4) Antihypertensives. If B.P remained higher than 140/90 inspite of rest and diuretics for 24-48 hours. We have used Aldomet as the drug of choice. If blood pressure was not checked by this, drug, Largactyl was added.

Delivery of a child which survives—is the most important aim of treatment, as in most of the cases perinatal mortality and morbidity is very high.

This can be achieved by timely recognition of a practically mature foetus and by deciding when in such a foetus intra-uterine life is dangerous.

We have done the following tests for placental functions—

- (a) Urinary Oestrogens are below

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minimum normal levels in severe pre-eclampsia with impaired foetal outcome (Vaidya *et al*, 1978; Ostergard 1973). A fall in urinary oestrogens by more than 50% of its original level indicates foetal distress. (Perkins 1977).

We have studied urinary oestrogens in 14 cases of pre-eclampsia (Table I).

TABLE I
Urinary Oestrogens

| Urinary oestrogen excretion and No. of patients | Outcome |
|---|--|
| Low (8) | S.B. (3) Premature (1) Unknown (2) Normal (2) |
| Normal (3) | Unknown (2) Abortion (1) |
| Raised (2) | Twins (1) Premature (1) |
| 50% Fall (2) | Induction and healthy baby 1 Abortion (1) |

(b) Vaginal cytology—In normal pregnancy especially after 4th month of gestation, vaginal smear is progestogenic, with good clump formation, dirty background, typical navicular cells, doderlein bacilli and cytolysis. The K.P.I. is less than 5%. An increased KPI indicates poor placental function (Watchtel).

Vaginal cytology was studied in 13 cases (Table II).

Two premature babies were 1.8 kg. in weight and were in good condition. Two S.B. in moderate progesterone deficiency were macerated.

Urinary oestrogens, Vaginal cytology co-relation is shown in Table III. Both the factors were co-relating in 8 of these 12 cases.

(c) Amnioscopy—This was done in only 1 case as the instrument was available to us very recently. This case showed meconium stained liquor and induction of labour was done in foetal interest. Amnioscopy is a useful diagnostic aid to detect chronic foetal hypoxia and should be repeated twice a week. (Bolognese & Schwartz 1977).

(d) Amniocentesis was done in 4 cases, when other tests indicated placental insufficiency or to judge foetal maturity. Liquor was meconium stained in 1 case, clear in other 2 cases and was not indicative of mature baby in a case of twins weighing 1.8 kgs. each Spontaneous delivery occurred in 30 cases. Induction with ARM was done in 3 cases. In 1 case it was for failing placental function. Liquor was thin meconium stained, but patient delivered a healthy baby at

TABLE II
Vaginal Cytology

| Vaginal Cytology KPI Index | Outcome | | | | | Total |
|------------------------------|----------|------|-------|--------|---------|-------|
| | Abortion | S.B. | Prem. | Normal | Unknown | |
| Good (5-10%) | - | - | 2 | - | 2 | 4 |
| Mild prog. defect (15%) | - | 1 | - | 1 | 1 | 3 |
| Moderate prog. defect (30%) | - | 2 | 1 | 1 | 1 | 5 |
| Severe prog. defect over 30% | 1 | - | - | - | - | 1 |
| Total | 1 | 3 | 3 | 2 | 3 | 13 |

TABLE III
Co-relation of Vaginal Cytology and Urinary Oestrogens

| Vaginal cytology Report (Placental Defect) | Urinary Oestrogen | Total Cases | Outcome |
|--|-------------------|-------------|---------------------------------|
| Good | Good | 3 | Twins (1), Prem (1) Unknown (1) |
| Good | Low | 1 | Unknown |
| Mild | Low normal | 1 | S.B. |
| Mild | Normal | 2 | Unknown (1), normal (1) |
| Moderate | 50% fall | 2 | Induction 1, Abortion 1 |
| Moderate | Low | 2 | Premature 1, S.B. 1 |
| Severe | Good | 1 | Abortion |
| | | 12 | |

36 weeks weighing 2.6 kg. In the other 2, it was done for the complicating eclampsia. ARM with pitocin was used for 2 cases developing accidental haemorrhage, 3 cases of eclampsia and 2 of severe pre-eclampsia with detected macerated still birth. Outlet forceps were applied in 3 eclamptic cases to cut short second stage of labour.

Foetal Outcome. All our neonatal deaths occurred in premature babies. Intra uterine asphyxia with amniotic fluid inhalation makes them more prone to morbidity (Table IV).

TABLE IV
Foetal Outcome

| (A) Foetal Outcome | No. of cases |
|-------------------------|--------------|
| Full term delivery | 23 |
| Premature delivery | 6 |
| S.B. | 11 |
| Abortions | 3 |
| Unknown | 2 |
| | 45 |
| (B) Perinatal Mortality | |
| S.B. | 11 |
| Neonatal Deaths | 5 |
| | 16 (33%) |

There was no maternal mortality. Three (6.3) patients developed accidental haemorrhage. An equal number of cases developed post partum psychosis. Ten (22%) patients had eclampsia. One patient of hypertensive encephalopathy developed hemiparesis but improved later on.

Prevention of residual hypertension—We have followed up these cases in post-natal clinics. Only 2 patients had residual hypertension 6 weeks after delivery and required treatment.

Discussion

Our rate of patients developing eclampsia is quite high Lewis (1964) has mentioned 2% of his cases developing eclampsia and 3% developing accidental haemorrhage. Our high incidence may be due to poor nutrition and lack of early medical care.

Most of the authors recommend elective delivery, either by ARM or by medical means if pre-eclampsia fails to improve within 24-48 hours with medical line of treatment (DeAlvarez 1978).

Lewis (1964) has given foetal death rate as 20% in cases of preeclampsia.

However, foetal mortality and morbidity rates vary with different authors due to inadequate definition, diagnosis, and lack of uniformity in collection of medical statistics. Perinatal mortality given by other authors is 27.8% by Llera (1978) 39%. Perkins (1977) has given a general perinatal mortality of 11/1000 with a conservative line of treatment.

Summary

(1) We have studied 45 antenatal cases of toxæmia of pregnancy.

(2) Multidisciplinary approach was practiced for maternal and foetal well being.

(3) Perinatal mortality was 33% and foetal wastage was 43%.

Acknowledgement

We thank our Dean, Dr. J. V. Bhatt for allowing us to use the hospital data.

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