

RELATIONSHIP BETWEEN RETINAL CHANGES AND FOETAL OUTCOME IN TOXAEMIA OF PREGNANCY

By

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SUMMARY

It is well known that the appearance of retinopathy indicates a poor prognosis for the foetus. In the present study the newborns were not appreciably affected though there were retinal changes in PIH affected mothers but there was a sharp increase in abdominal delivery.

Introduction

The presence of changes in the arterioles of the retina and haemorrhages in the retina may probably indicate similar changes occurring in the placenta. The well being of the foetus depends on the placental circulation which can be indirectly assessed by seeing the circulation in the retinal arterioles with the help of an ophthalmoscope. The appearance of retinopathy indicates a poor prognosis for the foetus and mother, and immediate termination of pregnancy is indicated; on the other hand, in eclampsia without gross retinopathy the prognosis for mother and child is good (Landsman *et al*, 1951).

Material and Methods

This study is done at Eden Hospital (Dept. of Obstet. & Gynec.), Medical College, Calcutta. The subjects compris-

ed of 5 normal pregnant women as control and 65 patients with features of toxæmia of pregnancy.

Out of 65 patients, 56 belonged to the pre-eclampsia group in whom the first trimester booking BP was known to be within normal limits. The rest of the 9 cases (unbooked) were admitted through emergency with eclampsia.

Ophthalmoscopic examination: Both pupils of the mothers were dilated by adding one drop of 10% phenylephrine HCl in each eye at 15 minutes interval for 4 times. Then they were examined by ophthalmoscope critically to find out any retinal change. This process was repeated at 7 days interval during the antepartum and postpartum period until discharge or as long as the changes persisted.

Observation and analysis

In this series, retinal changes were present in about one-fourth of PIH mothers (Table I) and this change was more frequent in eclampsia group as compared to the pre-eclampsia group.

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TABLE I
Distribution of Retinal Changes in PIH

PIH	Total No.	Retinal changes	Percentage
Pre-eclampsia	56	13	23.2
Eclampsia	9	3	33.3
	65	16	24.6

Though there were retinal changes in the mother, the babies were not appreciably affected, whereas 46.7% of the babies weighed between 2.6 to 3.0 Kg at birth to mothers having retinal changes, (Table II) 44.6% babies of the total PIH mothers had birth weights in the same range.

TABLE II
Relation of Birth Weight With Retinal Changes

Birth weight in PIH mothers with retinal changes	Total No.	Percentage
<2.0 Kg.	2	13.5
2.0-2.5 Kg.	6	40.0
2.6-3.0 Kg.	7	46.7
>3.0 Kg.	0	0

There is a sharp increase in abdominal delivery of mothers with retinal changes. In this series, the caesarean section rate was 43% in total PIH group but in contrast it is increased upto 62.5% in mothers having retinal changes (Table III). In only one case, there was intra-uterine foetal death. In all the rest, the mother delivered live born babies, out of which two expired in the neonatal period. The total perinatal deaths were three out of sixteen births in the group of mothers having retinal changes (Table IV). In our series PIH mothers having retinal changes, delivered male babies in 81.2% cases in comparison to 60% of the total series of PIH mothers.

TABLE III
Mode of Delivery in PIH Mothers with Retinal Changes

Mode of delivery	Total	Percentage
Vaginal route	6	37.5
Abdominal route	10	62.5

TABLE IV
Perinatal Outcome in Retinal Changes Group

Baby	No.
Live born	15
Neonatal death	2
IUFD	1

TABLE V
Sex Ratio of Babies in Retinal Changes Mothers

Sex of new born	Total No.	Percentage
Male	13	81.2
Female	3	18.8

Discussion

Wagener, Schiotz and Masters (as quoted by Hallum, 1936) have noted that when retinitis developed before the 28th week of gestation, there was only 25% chance of the patient giving birth to a living baby, even if the pregnancy was continued to stage of viability. Hallum (1936) has seen only 20% survival of the baby. However, if the toxæmia that developed before the 28th week is not accompanied by retinitis, the chance of living baby is much better. Hallum had seen 21 patients, all of whom had moderate to severe hypertension and arterial changes without retinitis, of these only 6 or 29%, gave birth to living babies.

Schultz and O'Brien (1938) recorded 47 toxæmic patients (with retinal

changes in 81% cases) of which 31 patients (66%) had viable foetus and 14 (30%) patients had dead foetus.

Bosco (1961) in his paper of retinal detachment in pregnancy (in 10 cases) enumerated 6 live and 4 dead infants. Of these 4 dead, 3 were antepartum and one was intrapartum death. 7 infants were premature of these 10 infants.

Reddy *et al* (1984) after an extensive study of 100 eclamptic cases observed that majority of their patients with severe narrowing arterioles haemorrhages and exudates in retina delivered still-borns, probably due to anoxia as a result of impaired placental circulation.

In present series, 16 mothers developed retinal changes. One of them suffered intrauterine foetal death and two live born babies expired in the neonatal period. So the perinatal death was 3 out of 16 births i.e. (18.8%) and live born in this series was 15 out of 16 births (94%). There was a sharp increase in abdominal delivery of mothers having retinal changes. There was a single case of retinal detachment in this series where

pregnancy was successfully terminated by caesarean section with a live born male baby.

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