

OCULAR COMPLICATIONS IN TOXAEMIAS OF PREGNANCY

by

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This study consists of examination of fundi oculi in 50 referred cases of toxæmias of pregnancy from 1955-1957 at King George Hospital, Visakhapatnam. I like to give you few statistics and conclusions arrived at after a fairly close study of this series of cases. In this connection I like to stress that every obstetrician should do ophthalmoscopy because he/she will often gain invaluable information concerning the degree and severity of the toxæmias.

Close observation of the retinal vessels is important since they are the only vessels in the body of arteriolar calibre accessible to direct observation wherein early pathological changes can be seen. It was found that the frequency and degree of fundus changes especially in the arteries more closely followed the severity of hypertension, and consequently the toxæmia, than any other single laboratory or clinical sign. The fundus changes are probably the best single indicator of the prognosis and severity of toxæmia.

By far the commonest and most serious complication of pregnancy, both from the point of view of the ophthalmologist and from that of the

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obstetrician, is the state of eclampsia. The immediate concern of the obstetrician is the welfare of the mother and the prospect of a viable child; but he also will have to advise regarding the wisdom of future pregnancies, and here the help of ophthalmologist may be of considerable value. In the important decision of termination of pregnancy, ophthalmologist may help the obstetrician. But a word of caution is essential here as the state of fundi is only one aspect of the picture. Report of the ophthalmologist should be considered in association with reports on blood pressure, renal function and other factors.

It will not be out of place to mention a few ocular manifestations due to some endocrine disorders of pregnancy. There may be minor degree of hyperthyroidism, manifested by retraction of lid and apparent ptosis. It is transient in nature. A bitemporal field defect is rarely seen and is even suggested that women so affected are prone to suffer from eclampsia. It has been reported there is sometimes radiological evidence of enlargement of the sella turcica.

Toxaemic Retinopathy of Pregnancy

Symptomatology: The ocular symptoms are not very specific except for

the spots before the eyes, flashes of light and headache. The clinical course of the disease may be divided into 3 stages.

1. Spastic stage of arterial irritation: The first visible ocular sign of toxæmia of pregnancy is usually an alteration of the retinal arterioles. It is accentuated by angiospasm, so that local constrictions appear at any part of fundus.

2. Stage of sclerosis: It is difficult to say when the functional spasm passes into organic sclerosis to be followed in more severe cases by the appearance of exudates; hæmorrhages and papilloedema. A retinal detachment is not very uncommon and the prognosis for reattachment is good.

We have evolved a classification based on the degree of arteriolar spasm which usually indicates the severity and duration of toxæmia.

TABLE I

Grade I: Localised arteriolar spasm; general diameter, ratio of vein to arteriole is normal, i.e., 3:2.

Grade II: Generalised constriction of arteries—Ratio is 2:1.

Grade III: Ratio is 3:1.

Grade IV: Grade III plus papilloedema.

In nine cases spastic arteriolar constriction was superimposed on an old chronic arteriosclerosis (i.e., copper wire arteries; compression of veins and arteries—venous crossings).

TABLE II
Fundus Examination of These 50 Cases

1. Normal retina	8 Cases.
2. Arteriolar spasms and narrowing	18 "
3. Vascular sclerosis (organic changes)	14 "
4. Retinopathy	9 "
5. Detachment of retina	1 Case.

TABLE IV
Frequency of Changes to Severity of Blood Pressure

Grade	Blood pressure	Changes in blood vessels only	Retinopathy
1.	Below 150/100	20%	1%
2.	Above 150/100	83%	8%
3.	Above 175/125	98%	35%

As per Traditional Classifications our Series show us:

No.	Classification	No. of cases
1.	Mild pre-eclampsia	22
2.	Severe pre-eclampsia	8
3.	Mild hypertension	10
4.	Severe hypertension	8
5.	Kidney disease	2

Prognosis: In dealing with these cases, we came to the following decisions:

If the patient had neither hyper-

Table III
Results

	Primipara	Multipara	Absence of previous vascular changes in retina	Presence of previous retinal changes
No. of cases	28	22	29	9

tension nor renal disease before her pregnancy and if the changes are confined to arterial alteration and she is well within the pre-organic stage of her toxæmia, she will respond to conservative treatment and the pregnancy could justifiably be continued although under the closest supervision.

If acute angio-spastic phenomena become evident, a more grave view was taken of the case, but if vascular sclerosis and retinopathy developed pregnancy was advised to be terminated. Its continuation involves risk of permanent and perhaps ultimately fatal damage to the vascular and visual systems of the mother and the likelihood of a foetal fatality. Its termination is usually followed by happy results in early cases with a rapid resolution of the retinal changes. In our series one case ended with optic atrophy which is very rare.

✓ Conclusions

1. Daily ophthalmoscopic examinations are another aid to the obstetrician in the management of patients with toxæ-

mias of pregnancies.

2. Both maternal and foetal complications in toxæmias depend on severity and duration of hypertension and also on its previous existence with chronic arterio-sclerotic changes in the fundus.
3. It is relatively safe to allow pregnant women with mild pre-eclampsia to continue with the pregnancy and deliver spontaneously. If there is severe hypertension or Grade III and Grade IV fundus changes are seen, immediate interruption of pregnancy is essential.
4. Only one case was further complicated with diabetes of 4 years duration, but no diabetic retinopathy was seen.
5. Though ophthalmologist may be of great help in the management of toxæmias of pregnancy, his reports should be considered with reports on blood pressure, renal function and other factors as the state of fundi is only one aspect of the clinical picture.