

those individuals who are sensitive to this particular toxin, as was shown by Acton and Chopra (1924) in regard to other allergic manifestations.

#### SUMMARY AND CONCLUSIONS.

(1) A detailed study of the correlation of urticaria to filariasis was undertaken.

(2) Seven typical cases of urticaria which were observed during the period are described.

(3) These cases were negative to all the tests used in diagnosing the cause of urticaria, but had microfilariae in their peripheral blood. It is therefore established that urticaria in these cases is due to filarial infection.

(4) The toxin liberated by the adult female worm during embryo-laying is responsible for the manifestation of urticaria.

(5) Urticaria is not seen to be a universal phenomena of filariasis. Individual susceptibility, as in other cases of allergy, evidently accounts for its restricted occurrence.

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#### SOME OBSERVATIONS ON THE INCIDENCE AND MORTALITY FROM ECLAMPSIA IN CALCUTTA, AND ITS PREVENTION.\*

By GRACE STAPLETON, M.D., B.S., W.M.S.  
*Medical Superintendent, Dufferin Hospital, Calcutta.*

At the Congress of the Far Eastern Association of Tropical Medicine held at Calcutta in December 1927, a paper was read by Dr. Margaret Balfour, Research Worker at the Haffkine Institute, Bombay, on the diseases of pregnancy, and in it statistics were quoted of the incidence of the various diseases in different parts of India. Figures were obtained from the records of nearly seven thousand cases which were treated in one year at certain hospitals in Bombay, the Government Maternity Hospital, Madras, and the Eden Hospital, Calcutta. Out of this total, 128 cases of eclampsia were recorded, 50 per cent. being from Calcutta with a death rate of 31.2 per cent., as can be seen in the following table:—

Place.	Eclampsia rate per 1,000 births.	Case mortality. Per cent.
Bombay	9.7	12.0
Madras	13.3	12.8
Calcutta	41.0	31.2

\* Being a paper read at the Medical and Veterinary Section of the Indian Science Congress, Allahabad, January, 1930.

Even allowing for the fact that Madrassi women are probably more ready to go to hospital for a normal confinement than those in Bengal, these figures show that there is a very high incidence and a severe type of the disease in Calcutta, the reason for which has still to be investigated. Apart from the actual eclamptic fits, many cases of toxæmia of a lesser degree occur, these being so common that the popular opinion among the women is that oedema and malaise are part of normal pregnancy and so can be disregarded and given no treatment—hence the most disastrous results frequently ensue.

Recently a closer investigation of all the eclampsia cases which were treated at the Lady Dufferin Victoria Hospital, Calcutta, during the years 1927 and 1928 was made. The incidence was found to be rather higher than in the neighbouring Eden Hospital, for 65 cases were seen in that time out of a total of about 1,200 deliveries. Apart from this, certain striking facts emerged:—

(1) That a very large majority of the cases were primigravidæ.

(2) That it was mainly a disease of young women of 20 years of age or under.

(3) That the death rate among these younger women was double that among the older ones.

The following tables illustrate this:—

Parity.	Number of patients.	Deaths.	Percentage of mortality.
Primigravidæ	53, i.e., 81.5%	11 (plus† 2)	24.5 (20.75)
Multigravidæ	12, i.e., 18.5%	2	16.6 %

† Two cases taken home almost moribund.

Age of patient.	Numbers.	Number of deaths.
14 years	2	0
15 "	8	2
16 "	10	3
17 "	6	3
18 "	5	0 (plus 1)
19 "	6	1
20 "	13	2 (plus 1)
21 "	0	0
22 "	2	0
23 "	1	0
24 "	2	0
25 "	4	1
26 "	1	0
27 "	0	0
28 "	1	1
30 "	2	0
32 "	2	0

Another fact that was brought out by the study of this series of cases was that the prognosis was far more serious when fits occurred in the latter

months of pregnancy than when they began with ordinary labour. The figures are as follows:—

Times of onset with reference to labour.	Number of cases.	Deaths.	Percentage death rate.
Before labour ..	15	6 (plus 1)	47 % (40)
With or during labour.	45	6 (plus 1)	15.5% (13.3)
After labour ..	5	1	20 %

The number of cases in the last line are too small to be of great significance. It was further noted that out of 16 cases who came in for labour and developed eclampsia in hospital, only one died and that was after 6 post-partum fits.

*Premonitory symptoms* occurred in at least three-quarters of the cases, especially oedema and headache, the former in 33 and the latter in 27 of the series, but headache was very often a very late symptom and came on in 11 of the cases only a few hours before the commencement of the fits. In 12 others it had been complained of at times varying from one week to two months previously. The oedema was more often of long duration, having lasted from one to four months in more than half the patients and in two cases throughout pregnancy, while in 13 others it had been present less than 14 days. Other prodromal symptoms were of comparative rarity, for a history of vomiting was given only in four cases; scanty urine, fever and frequent stools each in two; and drowsiness, stupor, loss of appetite, poor sight, abdominal pain and marked constipation each in one instance.

Symptoms lasting over a week had been present in about half the cases and yet there was no evidence that treatment had been received by any of these patients.

*Preventive measures.*—In the light of the above figures, surely it is time that the subject should be more seriously considered by the medical profession and the health authorities in this country. We know that the disease can largely be prevented by ante-natal care, so much so that in those countries where ante-natal clinics are properly and widely organized and medical advice is sought regularly by the majority of pregnant women, eclampsia is rapidly becoming an uncommon disease. The lives lost here in India are those of otherwise healthy young women, over whose recent marriage a large amount of wealth has been spent. If general practitioners would combine together, especially in the districts where the disease is most common, and give warning to the heads of all households which they attend and where there are young married women, of the possibility of the disease, and the need for constant medical supervision and dieting during pregnancy, especially for the last three months, then the disease would become much less frequent. For the poor who cannot afford to call a doctor often or to pay for frequent testing of the urine for albumen, systematic house-to-

house visiting should be instituted by municipal health visitors, midwives or voluntary social workers, and the pregnant women encouraged to attend one of the free ante-natal clinics now attached to women's hospitals and maternity homes or welfare centres, and there they would have thorough examination and receive advice should the least deviation from normal be detected at any time.

It is ignorance that is largely responsible for the existing state of affairs, and households who have once experienced one of these tragedies in their midst, will soon respond to promises of help on future occasions, even if it does mean breaking down many old customs; and others will follow once the lead is given. At the British Medical Association Annual Meeting held at Manchester in July 1929, the suggestion was brought forward by an obstetrician from one of the leading London hospitals that the toxins responsible for this disease, could be prevented from developing or neutralized as they were formed, if sufficient alkalies were regularly given from as early as the second or third month of pregnancy to keep the body tissues at a certain degree of alkalinity, the degree being checked by laboratory tests on the blood and urine. He had treated a series of patients who had suffered from eclampsia or lesser toxæmia during the previous pregnancy on these lines, as well as by careful dieting, and though as much as an ounce and a half of alkali in the form of potassium citrate and sodium bicarbonate might be required daily yet he had had very favourable results both to the mothers and to the infants. His number of cases was small, but considering the great damage that the disease is responsible for in this country, it would be worth while trying the experiment on a larger scale, even if conditions were such that the amount of alkali required could not often be checked by laboratory tests.

From a social standpoint, the fact that it is the young primigravidæ who suffer most from this toxæmia could be used as a strong argument in favour of raising the marriage age and the time of consummation of marriage until the girl has completed her physical growth, for in the year November 1927-1928, out of the 34 girls of sixteen years and under who were admitted to the Calcutta Dufferin Hospital for their first confinement, no less than 11, i.e., 32 per cent. had eclampsia, to say nothing of those who had lesser signs of toxæmia.

#### THE EFFECT OF SANOCRYGIN ON THE EFFICIENCY OF THE LIVER.

By T. A. HUGHES, M.A., M.R.C.P., D.P.H.,

MAJOR, I.M.S.,

Professor of Clinical Medicine, King Edward Medical College, Lahore,

and

KHAZAN SINGH MALIK, M.Sc.

It is now agreed that the toxic symptoms produced by sanocrysin in tuberculous patients