

A short Synopsis of Salient Features of Aim and results of the Inquiry on Study of Incidence and Relationship of the Prenatal and Neonatal Syphilis and results of the Treatment of Penicillin at various stages

By

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OBJECT OF INVESTIGATION

Prophylactic use of penicillin in prenatal syphilis has yielded most gratifying results. To effectively use this weapon and assess the value of different therapeutic schedules with penicillin at various stages during pregnancy and neo-natal periods, it is very essential to have correct information regarding the incidence of antenatal and natal syphilis and its relationship to abortions, stillbirths, neonatal deaths and congenital syphilis.

The work was being carried on with the object of studying:—

- (a) Rate of incidence of prenatal syphilis.
- (b) Effect of parental syphilis on foetal losses.
- (c) Effect of prophylactic therapy with penicillin at various stages of pregnancy.
- (d) Effect of penicillin therapy at one pregnancy, on subsequent pregnancies.
- (e) Effect of penicillin on foetus and infants into child-hood.
- (f) Interpretation of different S.T.S. in relation to clinical findings.

FIRST STAGE

RESULTS OF STUDY FROM APRIL 1955 TO DECEMBER 1956

(A) Incidence.

1. Antenatally 1952 women were examined serologically and clinically, 229 were found to be seropositive.

(Sero-reactivity rate 8.5%).

2. 2997 cases delivered in the department. 315 were seropositive.

(Sero-reactivity rate 9.3%).

Total No. of admissions were 2917.

Total No. of Abortions were 211

Total No. of Still Births were 57.

From the above figures one finds that:—

There are 7.3% cases of abortions and 1.99% cases of still birth.

(B) Effects of parental syphilis on foetal losses.

Out of 2917 admissions	-	-	315
cases were seropositive.			
Abortions	-	-	33
cases seropositive.			
Still Births	-	-	18
cases seropositive.			

Among the seropositive cases 10.5% cases are of abortions. This percentage of abortions is higher than the percentage of abortions (7.3%) in total number of admitted cases.

Among seropositive cases 5.71% cases are of Still Births. While in total number of admitted cases the percentage of Still Birth is only 1.99%.

(C) Effect of prophylactic therapy with penicillin at various stages of pregnancy.

57 seropositive cases were treated and after the treatment there was one case of Still Birth in that group. It means the percentage of Still-Births after adequate treatment has gone down to 1.7% (from 5.71%).

With the figures on hand one can conclude that in seropositive untreated cases percentages of abortions and Still Births are higher than the percentages of abortions and Still Births in total admissions.

Further it is found out that with adequate treatment the percentage of Still Births reduces to a very considerable extent.

(D) Effects of penicillin therapy at one pregnancy and on subsequent pregnancies.

During the period of the observation only 3 mothers came for second delivery. Two were treated during the first pregnancy and one did not take any treatment.

The two mothers during their next delivery had normal live births with healthy children.

The non cooperative patient gave birth to a still born baby.

SECOND STAGE

REPORT OF THE WORK DONE FROM JANUARY 1957 TO 20TH FEB. 1958

During this stage the outcome of penicillin treatment of antenatally treated cases has been studied.

Procedure.

All the antenatal cases were divided into two categories.

(i) Sero-positive, (ii) Sero-negative.

Very sero-positive case (quantitative test) was clinically examined and attempt was made at elucidation of as complete and reliable history as possible. Information about previous antisyphilitic treatment, was collected. Only those sero-positive mothers who did not receive any anti-syphilitic treatment with penicillin in previous deliveries were studied and had been treated with penicillin alone. Simultaneously another group of sero-negative cases with similar age, parity and term of pregnancy was separately studied. This was termed as 'Identical Cases' or matching group. Both the groups were followed to the maternity wards and the outcome was studied. It has been necessary to follow this method in the assessment of value of penicillin treatment in prenatal syphilis, as expectant mothers with positive S.T.S. could not be kept untreated and thus control group of untreated cases could not be had.

Babies of sero-positive treated mothers were examined clinically and serologically (quantitative test) at delivery. Blood of sero-positive mothers and babies was re-examined, about 8 weeks after delivery, and both of them were clinically re-checked up. Such a procedure helped in assessing the value of penicillin treatment in mothers and its effect on the offspring. By this procedure, it was also possible to differentiate between pre-natal syphilis and 'passive reaginaemia'.

2698 cases were examined antenatally at Sassoon Hospitals, Poona as per procedure described above. 291 cases were found to be positive (10.8%). 67 cases from these were completely studied.

40 serologically positive cases were fully treated and were followed up. In this group all the mothers gave birth to live babies. Clinically the babies were healthy. Serologically the mothers and babies born seropositive at birth showed serological improvement on re-examination after about twelve weeks. Sero-negative babies remained so during the observation period.

In the group of identical cases one baby was still born, who died within three days.

27 weakly positive mothers were not given any treatment, they also were matched with identical seronegative cases. The babies and mothers were rechecked up after a period of eight weeks. In 26 cases there was serological improvement both in mothers and in their positive offspring. The seronegative offsprings continued to remain so. In one case there was no serological improvement either in the baby or in the mother. The matched identical group of mothers gave birth to normal healthy children.

1. From the above results it can be computed that the results of penicillin treatment are auspicious, in that there is reduction in foetal loss rate (almost as much as of normals.)

2. Weak positive serological reactivity seems to be due to high sensitivity of the test and it seems all the weak positive mothers excepting one were really normal.

Observations

Diagnosis of prenatal syphilis presents all problems of diagnosis of syphilis with the addition of pregnancy. During the course of our study, we noticed that the visible clinical lesions were prominent by their absence. This may be due to the fact that most of the cases come to these clinics only at 28 weeks of gestation or after; or may be due to the suppressive effect of pregnancy on the course of the disease (Burk-Text Book of Venereal Diseases). Thus most of the cases had to be handled as 'Latent Cases'. This naturally shifted the diagnostic emphasis from clinical signs to obstetric history and the results of S.T.S. (Quantitative), and the results of S.T.S. of the spouse. It was thought worthwhile to err on safer side by treating all cases on these criteria as T.P.I. test was not possible at this institution. Therefore it is quite likely that some of our cases may not be cases of syphilis. We could not collect the samples of bloods as frequently as desirable on account of wrong notions of the patients. Even after giving due weightage to these points it is clear that the results of penicillin (alone) are beneficial to successful termination of pregnancy and birth of live healthy babies. Even the results of treatment given as late as 32 to 36 weeks of gestation are very encouraging.

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