THE AGE INCIDENCE OF SERO-POSITIVE SYPHILIS IN FEMALES

BY

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That syphilis in the female is to all intents and purposes a different disease from syphilis in the male is becoming a commonplace observation. In the female the symptoms are of a much milder character; they often manifest themselves later than in the male, and treatment, to be efficacious, has to be much prolonged. If, as has been suggested,* this difference in reaction to syphilis is really due to the fact that from puberty to the menopause female blood is of a different composition and richer in lipid content—in other words, if female metabolism is essentially different from male metabolism during the years of menstruation—then it may well be that the serological reactions of the female are different from those of the male, and it might be asked, "Does female syphilitic blood show positive reactions as easily as male blood, and what difference does the menopause make to these reactions?"

Two difficulties stand in the way of finding an answer to these questions. First, the test that has hitherto been used for statistical investigations has usually been the Wassermann, a test that has now been shown to be lacking in sensitivity in just the kind of late and latent cases that would be found in women with few or no symptoms. Secondly, the ordinary centres for dealing with venereal diseases have rather concentrated on the age and sex incidence of *original infections*, and have not paid so much attention to the classifying of results of tests in old cases. Further, the patients mostly dealt with by venereal disease clinics are *those that come for treatment*. What would be of more interest to us here would be the results of serological examinations carried out *at random* in unsuspected as well as suspected cases.

CASES UNDER OBSERVATION

During the past year such a random testing of unsuspected cases has to some extent been carried out in this hospital, by means of the M.K.R. test. This test is eminently suited for this work, as it is more sensitive than the Wassermann and, judging from our results and those of other investigators, seems likely to give correct results in at least 98 per cent. of cases. The test has been performed on 640 females and 989 males, over 280 of these cases being tested on repeated occasions. From the literature on the subject one might be led to expect, in

the general population, a maximum incidence of demonstrable syphilis (demonstrable clinically or otherwise) in individuals aged about 45, with a considerable drop in the incidence after this age, but a small secondary rise in the sixties. This has been quite well borne out by our results here with males (see Chart I). There is a marked maximum peak just before 50, followed by a considerable drop lasting the next fifteen years, and a rise again after 65.

In females, however, the results are very different (see Chart II). Not only is the maximum incidence delayed till after 65, but there is no peak at 45. From 50 to 60 the curve is still rising, and indeed the whole graph shows a generally progressive rise without the fluctuations found in males.

COMMENTARY

The situation is complicated, though, by the fact that the males included a large number of general paralytics and the females very few. It must be borne in mind

that whereas most general paralytics are treated in mental hospitals, other cases of syphilis mostly find their way elsewhere, and also that there is a definite age incidence for general paralysis, these cases occurring at certain ages and then dying usually at an earlier age than do those suffering from other forms of syphilis. But when we plot out the results obtained after *excluding* cases of general paralysis (dotted lines on charts), we still find a maximum peak in males, occurring before 50, with a drop for the next fifteen years, and a secondary rise at 55 to 60. And in females we still find an absence of a peak at 50, and a general rise in the curve, reaching its maximum after 65.

The above results tend to support the view that

the menopause does affect the serological reactions of the females. The lack of fall in the incidence of positives after 50 in females can be explained on the assumption that whatever factor tends to cause such a drop (as occurs in males) it is more than compensated for by the fact that, after the age of 50, patients show positive reactions who have never shown them before, notwithstanding an infection many years earlier. In other words, many of the females examined before 50 give negative reactions, not because they are not syphilitic, but merely because they have not yet reached the menopause. The same fact becomes apparent on comparing the recent cases with the chronics. The 270 recent males, with an average age of about 35, showed a higher percentage of positives than the chronics, with a mean age of 50, whereas the 240 recent females, with a mean age of about 40, showed a lower percentage of positives than the chronics, with a mean age of just over 50.

I am indebted to Dr. F. M. Rodgers, the medical superintendent of this hospital, for permission to publish these results, and to Colonel E. T. Burke for first arousing my interest in this matter.

CHART I.—Age incidence of sero-positive cases in 989 males. Including (—) and excluding (---) general paralysis.

CHART II.—Age incidence of sero-positive cases in 640 females. Including (—) and excluding (---) general paralysis.

* See a discussion, initiated by Colonel E. T. Burke, before the Medical Society for the Study of Venereal Disease, London, January, 1931, *Brit. Journ. Ven. Dis.*, 1931, vii, 151.