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THE RECRUDESCENCE OF VENEREAL DISEASES*

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It is important that we should be clear what we mean when we use the term "venereal disease." The legal definition dates from the Venereal Disease Regulations of 1916 and the Venereal Disease Act of 1917. At this time, syphilis, gonorrhoea, and chancroid (soft sore) were the only venereal diseases in the eyes of the law. Since then, three further diseases—lymphogranuloma venereum, granuloma inguinale, and non-gonococcal urethritis (in the male)—have also been included in the Ministry of Health case returns from the V.D. clinics. If by venereal disease one means any disease *usually transmitted by sex contact* then certain non-gonococcal genital infections in the female, including trichomoniasis, and a number of other minor infections or infestations seen in both sexes might be considered. The inclusion of this last group clearly remains controversial. In future it might be better to drop the term venereal disease, with all the stigma attached to it, and merely refer to a group of sexually transmitted diseases which could be cared for by a specialist who might be termed a genito-urinary physician, rather than a venereologist.

The first warning to the medical profession against the post-war complacency about venereal diseases was given by King (1958). The figures of the new case returns (Ministry of Health, 1960) for England and Wales show the continuation of an adverse trend. The figures for syphilis have continued to decline, but those for gonorrhoea and non-gonococcal urethritis have risen sharply (Table I). Negro immigration has resulted in sporadic cases of rarer diseases, such as lymphogranuloma venereum and granuloma inguinale, being seen at the clinics. The total numbers attending the clinics are higher than before the last war, and, although many have no disease, most have run a risk; these

figures support the impression that promiscuity is more widespread among the population, which receives every encouragement from certain books, daily papers, magazines, films, and television programmes. It should be clearly understood that the Ministry of Health returns do not indicate the true prevalence of venereal disease in this country, as cases diagnosed by general practitioners or by consultants in private practice are not included (Treatment of V.D. outside the Hospital Service, 1959).

Let us consider the present situation in each disease or disease group in turn. (Chancroid is rarely seen now in this country and need not concern us.)

Syphilis

As we have seen, the continued decrease in the new cases of syphilis appears very satisfactory. It is possible, however, that this decrease is partly accounted for by the suppression of the early signs of the disease by the widespread use of antibiotics which have some therapeutic effect on syphilis. These drugs are often used symptomatically, thus preventing a diagnosis being made. If they are not given in adequate dosage they will not cure early syphilis, which becomes latent and may in due course give rise to clinical late syphilis. Recently there has also been evidence of an increase in primary and secondary early syphilis in some clinics: a high proportion of these cases have occurred in homosexuals. This is shown from the statistics in two clinics in London (Nicol, 1960) (Table II).

It is possible that an increasing number of people will have latent syphilis. In these cases the diagnosis depends entirely on the serological tests; therefore recent advances in this field are of the utmost importance. The standard serological tests for syphilis (S.T.S.) are either complement-fixation tests such as the Wassermann reaction (W.R.) or flocculation tests such as the Kahn or Price (P.P.R.) tests. It is now known that the S.T.S. do *not* demonstrate true syphilitic antibody but a substance termed "reagin," part of the γ -globulin fraction of serum. Reagin may be present in certain patients

*Based on an address given at the B.M.A. Annual Clinical Meeting, Middlesbrough, October, 1960.

TABLE I.—New Cases Reported from the V.D. Clinics in England and Wales

	Syphilis	Gonorrhoea	Chancroid	Non-gonococcal Urethritis (Male Only)	Total Cases (Including Other Conditions)
1951	8,432	18,064	453	10,794	97,229
1953	6,186	19,263	356	13,157	98,593
1955	4,983	17,845	293	14,269	94,698
1957	4,977	24,381	260	16,066	93,463
1959	3,927	31,344	267	20,227	116,462

TABLE II.—Incidence of Homosexuals Among New Male Cases Seen at Two London V.D. Clinics (S.B.H. and S.T.H.) in 1959 (From "The Practitioner")

	Early Syphilis			Gonorrhoea			Non-gonococcal Infection			No Venereal Disease			Total
	S.B.H.	S.T.H.	Total	S.B.H.	S.T.H.	Total	S.B.H.	S.T.H.	Total	S.B.H.	S.T.H.	Total	
Total ..	12	45	57	136	971	1,107	241	1,071	1,312	424	1,358	1,782	4,258
Homosexual ..	8	10	18 (31.6%)	15	133	148 (13.4%)	11	32	43 (3.3%)	6	47	53 (3.6%)	262 (6.1%)

with other acute or chronic diseases, in post-inoculation states; and in pregnancy. This gives rise to acute or chronic false-positive (B.F.P.) reactions, which have often resulted in a diagnosis of latent syphilis being made. As a result of the work of Nelson and Mayer (1949), new tests for true syphilitic antibodies have been introduced. It is now well established that the treponemal immobilization (T.P.I.) test differentiates between syphilis and B.F.P. reactions, and also confirms clinical late syphilis in certain cases when the S.T.S. are negative. Unfortunately the T.P.I. cannot differentiate between various treponemal diseases such as syphilis and yaws (Wilkinson, 1954). Thus differential diagnosis remains a difficult clinical problem in many negro patients attending the clinics.

Unfortunately, as the T.P.I. technique is complicated, the test is done only at a research centre such as the V.D. Reference Laboratory. However, a newer test for syphilitic antibody, the Reiter protein complement-fixation (R.P.C.F.) test, can be done easily in any laboratory and gives about 90% agreement with the T.P.I. results. It is suggested that to ensure an accurate diagnosis of latent treponemal disease (syphilis or yaws) the W.R. and R.P.C.F. should be done as routine clinic tests; if either test is positive, they should be repeated with the addition of a quantitative P.P.R.; at the same time half the specimen should be sent to the V.D. Reference Laboratory for a T.P.I. test (Foster, Nicol, and Stone, 1959; Sequeira, 1959).

Gonorrhoea

A marked rise in the number of cases of gonorrhoea has occurred in the last few years (see Chart). This has occurred in spite of the fact that penicillin, given as a single intramuscular injection of 600,000 units, still cures over 90% of the patients. For various reasons there has been a failure to control the disease.

Repeated Reinfection.—Because it is so simple to cure gonorrhoea many patients run repeated risks and may have several infections in any one year. The official returns are made of the number of new cases. This figure was compared with the number of patients infected in seven large clinics in 1957—7,531 cases among 5,757 patients—confirming that repeated infection has not been uncommon (Ministry of Health, 1959).

Immigrants.—There is evidence that gonorrhoea occurs in a high proportion of immigrants of all races (Laird, 1958). This usually happens after their arrival in this country. In recent years a large number of negro immigrants from the Caribbean area have settled in

London and other large cities; in some clinics they comprise a high proportion of the new patients. A study of a group of such immigrants in one clinic showed that about half of the males had had recent sexual intercourse with white women (Nicol, Brinton, Bird, and Rigden, 1960).

Penicillin-resistant Strains.—Two studies have shown that some strains of gonococci have become partly resistant to penicillin, and about 20% of strains fell into this category; it was possible to correlate this with clinical failure (Curtis and Wilkinson, 1958; Craddock-Watson, Shooter, and Nicol, 1958). It may be advisable in such cases to give a much higher penicillin dosage (say 1.8 mega units) or to use another effective antibiotic.

Reservoir of Infection.—In the great majority of cases men with gonorrhoea are unable to trace their infecting female contacts; some women in this group are prostitutes, but many are amateurs. This group forms the “reservoir of infection” of the disease. It is a most important factor, because a high proportion of women with gonorrhoea have no symptoms of the disease (Willcox, 1959). Contact tracing is the only method of bringing this group of women to the clinic for examination and diagnosis; but at present only a very small proportion of these contacts can be traced, and this reservoir of infection in women remains constantly “topped up” (Nicol, 1956). Another very disturbing factor is the increasing proportion of teenagers infected with gonorrhoea. In a recent study by the British Cooperative Group it was found that the increase in cases of gonorrhoea for 1957 to 1958 in the 18–19 age-group was 27% in females and 36.3% in males (King and Wisdom, 1960). In a recent analysis of 464 prostitutes examined in Holloway Prison it was found that 36% were teenagers; of the 145 teenage prostitutes examined 48.9% had gonorrhoea (Keighley, 1960).

Non-gonococcal Infection of Genital Tract

This condition is probably sex-transmitted in most cases, although chemical or physical trauma and genital infection secondary to disease of the upper renal tract have to be excluded.

The condition is more easily diagnosed in the male, and cases in this category have increased each year since 1951, when statistics were first available (Ministry of Health, 1960). In the female sex-contact urethritis, vaginitis, or cervicitis may be found, but it must be admitted that in some patients there are no abnormal physical signs. This type of disease can at present be divided into only two main groups, owing to our lack of knowledge in spite of continuing research.

1. **Genital Infection due to Trichomoniasis.**—*Trichomonas vaginalis* is found in up to 15% of male patients with non-gonococcal urethritis (Whittington, 1957); and it is usual to find a similar infection in the female sex-contacts (Catterall and Nicol, 1960). On the other hand, if the male sex-contacts of women with the much commoner trichomonal vaginitis attend the clinic for examination, it is more difficult to show corresponding evidence of infection. However, it is essential to examine an early-morning smear (E.M.S.) and inspect the all-night urine; this sometimes indicates minimal urethritis. If the E.M.S. is negative, culture of urethral scrapings or of prostatic secretion may identify the *T. vaginalis*. It has been possible to demonstrate present or past urethritis of some type in about 90% of men

in this category (Nicol, 1958), and Watt and Jennison (1960) found *T. vaginalis* in 60% of the husbands of 30 women with trichomoniasis.

A new drug, metronidazole ("flagyl"), discovered in France has now been used in this country in the treatment of trichomoniasis (Durel, Roiron, Siboulet, and Borel, 1960). It is effective when given by mouth (200 mg. t.d.s. for seven days) in over 80% of female patients; they need no local vaginal therapy. *T. vaginalis* can also be eliminated in males with a similar course of treatment (Rodin, King, Nicol, and Barrow, 1960). Treatment must be considered for male contacts with urethritis but in whom the *T. vaginalis* is not found, and for males who are shown to have reinfected their female contacts.

2. Genital Infection of Unknown Aetiology.—The majority of cases of non-gonococcal genital infection are of unknown aetiology, although it has been suggested that a virus (Siboulet, 1955) or pleuropneumonia-like organisms (Klieneberger-Nobel, 1959) may be the infective agent. The signs and symptoms are in general similar to those of gonorrhoea, but the incubation period is somewhat longer, the course more chronic, and relapse more frequent. The most crippling complication is Reiter's syndrome (or disease). In this condition urethritis is followed by polyarthritides, conjunctivitis, and skin and mucous-membrane lesions termed "keratoderma blennorrhagica"; some patients develop sacroiliitis, which is indistinguishable from that seen in ankylosing spondylitis (Oates, 1958). It is now thought that similar complications occurring in patients with gonorrhoea are identical to Reiter's syndrome—that is, concomitant gonococcal and non-gonococcal urethritis (Ford, 1953). This is supported by the fact that in these cases it has not been possible to identify *Neisseria gonorrhoeae* in joint fluid.

The treatment of non-gonococcal infection is empirical, and it therefore seems reasonable to give less expensive therapy with streptomycin and a sulphonamide drug than that of a more expensive tetracycline drug. There is little difference in satisfactory clinical response (about 70%) in each (Jelinek, 1957), but it should be noted that the urethritis will resolve in six to eight weeks with a placebo in about 60% of cases (Gartman and Leibovitz, 1955). It also seems logical to treat the female sex-contact, who often shows evidence of cervicitis. It can be argued that treating the female may at least prevent reinfection of the male contact.

The complication of Reiter's syndrome may result in many weeks of hospitalization; there is no evidence that treatment with phenylbutazone or with the cortisone drugs is more than symptomatic.

Lymphogranuloma Venereum

Although this condition may occur in whites it is more likely to be seen in recently arrived negro immigrants; patients usually present with the "inguinal syndrome," a suppurative adenitis with multiple discharging sinuses. The deep iliac glands may also be enlarged and tender; if this occurs on the right side the patient may be misdiagnosed as having acute appendicitis (pseudo-appendicitis syndrome) (Galbraith, Graham-Stewart, and Nicol, 1957).

The late manifestations of this disease, either with genital oedema and ulceration or with rectal ulceration leading to stricture formation (particularly in the female), may now occasionally be seen.

Granuloma Inguinale

This disease of the negro is still rare but has been reported in this country in recent years (Knight and Fowler, 1956). The early lesions on the genitalia can be like either a primary chancre or an early carcinoma; the diagnosis can be made by finding the Donovan bodies in the mononuclear cells from a scraping of the lesion.

Epidemiology

The control of venereal diseases must depend on the tracing of infecting and infected contacts. In this country this is done on a voluntary system by handing contact slips to the infected patients. In order to get the best results it is essential to have the help of a highly trained social worker. The local health authorities can also help by sending a welfare officer to visit those who, having initially attended, default before treatment is completed.

Lastly, I would like to make a plea to general practitioners to send patients to the nearest available clinic for diagnosis before giving any form of treatment, particularly antibiotics. You may think that the present situation as I have described it does not give rise to complacency. It is essential that the whole medical profession should become aware of this dangerous recrudescence of venereal diseases.

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Building work has now started on a new selection centre for laboratory animals at Carshalton. It is expected that this will be completed by about August this year. This centre will be used to maintain primary-type colonies of mice and rats of various strains, both inbred and non-inbred, under conditions of the strictest isolation and hygiene—that is, under pathogen-free, but not germ-free, conditions. (*Laboratory Animals Centre News Letter*, No. 21.)