We confirmed the long-recognized fact that patients with Bence Jones proteinuria and patients with renal failure have a poor prognosis. As far as the radiological appearances were concerned those patients with well-circumscribed osteolytic lesions were found to have a worse prognosis than those in whom the only finding was a more or less pronounced generalized osteoporosis. Different patterns of response of the immunoglobulin levels were observed in the first six months of treatment. In most patients these levels fell, either slowly or very rapidly. Those patients with a slow fall or no change in the immunoglobulin level had a better survival time than those in whom the level fell rapidly. Ten of the patients had very poorly differentiated plasma cells in the bone marrow as the predominant cell type, and only one of them has survived for more than three years. Thus a small group of patients can be distinguished who

have a poorly differentiated tumour and a very bad prognosis.

When the clinical findings in the groups of patients treated before and after 1960 were compared a striking difference was found only in the frequency of different radiological appearances, the other clinical features being very similar in the two groups. Hence part of the improved survival rate in the past decade is probably due to differences in the types of multiple myeloma treated during the different time periods. Nevertheless, this is not the only explanation and some of the improvement must be due to the cytotoxic drug therapy.

Radiumhemmet, Stockholm, Sweden
BO JOHANSSON

Gynaecology in General Practice

Venereal Disease in Women—I

C. S. NICOL

British Medical Journal, 1971, 2, 328-329

Sexually Transmitted Diseases

A number of infectious diseases are usually transmitted between individuals by close bodily contact during the sex act. These are most commonly found in the lower genitourinary area, but are sometimes capable of spreading to the upper genitourinary tract as well. They may also involve other parts of the body by genito-oral or genitoanal contact and may infect the conjunctival sac or sometimes spread via the blood stream. Small girls may get similar genital conditions by chance infection from either parent; the eyes of newborn children may be infected from the mother's genital tract, and in the case of syphilis transplacental infection affects the fetus. Only very rarely are these infections transmitted by other forms of contact between individuals or indirectly via some inanimate object.

In every patient with suspected sexually transmitted disease the general practitioner must get an accurate history of all recent incidents of sexual intercourse or of any other type of contact, either heterosexual or homosexual. It is surprisingly easy to get this information from patients nowadays, as long as they appreciate the reason for this type of question. In many cases of sexually transmitted disease the patient has been promiscuous. If possible the identity of both the primary (source) contact and of all secondary (infected) contacts must be established. Quite often the only secondary contact will be the patient's wife, whose exposure has been entirely intramarital.

The general practitioner then has to decide whether he has the facilities for accurate diagnosis, contact tracing, and

follow-up before he gives the appropriate treatment. He must also remember that in the presence of any one sexually transmitted disease, however minor, he should do the appropriate examination and tests to exclude all the other sexually transmitted conditions. If he decides he has not the necessary facilities he should refer the patient (preferably untreated) as soon as possible to a special clinic. If some antibiotic has already been given this should be mentioned in his referring letter to the venereologist.

This article is in four parts: the first two deal with the venereal diseases as legally defined, the others with the other sexually transmitted diseases.

Legal Definition

The venereal diseases, as defined in an Act of Parliament in 1917, include syphilis, gonorrhoea, and chancroid (soft chancre). New cases of these diseases comprise about 25% of total new cases seen in clinics. Patients can attend these clinics without referral from their general practitioner and without an appointment; treatment is free (no prescription charge) and confidential. In the past ten years new cases in most clinics have doubled; the ratio of men to women has changed from about 3 to 1 to 1.5 to 1.

Syphilis

Syphilis is caused by *Treponema pallidum* and has an incubation period of from 9 to 90 days. The early phase lasts for two years—during most of which time the patient is contagious—and consists of a primary stage, a secondary stage, and a latent stage; sometimes primary or secondary type lesions reappear in a recurrent stage. The late phase is divided into a latent stage, a tertiary stage (gummatous), and

St. Bartholomew's and St. Thomas's Hospitals, London
C. S. NICOL, M.D., F.R.C.P., Physician in Charge of Venereal Diseases Clinic

a quarternary stage (cardiovascular and neurosyphilis); these will not be considered in detail here. In 1969 369 cases of early syphilis in women were reported in the clinics, an increase of 6.2% over the 1968 figures.

DIAGNOSIS

Diagnosis is aided by clinical examination, identification of *T. Pallidum* by the dark ground technique, and serological tests.

Clinical Examination.—The primary chancre is typically a single, painless, indurated circular lesion, which may occur on the vulva (with surrounding tissue oedema), at the urethral orifice (with dysuria), or on the cervix. In one case in ten the lesions may be multiple; there is painless, unilateral or bilateral enlargement of the inguinal glands in most cases, but not in cases of cervical chancre. Though most primary chancres are on the genitals, they may occasionally occur on the lip, the breast, or at the anus. These extragenital lesions also have typical associated adenitis.

In the secondary stage *T. pallidum* is disseminated through the tissues through the blood stream, so there is a general tissue reaction, with mild pyrexia, lassitude, anorexia, and headache, associated with a mild anaemia and a raised sedimentation rate. The patient may also complain of a sore throat, hoarseness, and arthralgia. There are generalized, symmetrical, non-irritating skin lesions on the body, face, palms, soles, or genitals; these may be macular, papular, pustular, annular, or follicular, the last being associated with patchy hair loss (alopecia). Irregularly distributed white mucous patches may occur in the mouth on the inner surface of the lips, tongue, palate, and tonsillar area, and on the larynx. Sometimes these lesions extend in a linear fashion (snail track ulcers). On the vulva papules become eroded, and occasionally a mucous patch may be seen. In the perianal region papules fuse to form large, flat-topped lesions (condylomata lata). There is painless enlargement of lymph nodes in the posterior triangle of the neck and at the elbows (epitrochlear).

Differential Diagnosis.—The primary chancre has to be distinguished from the genital lesion of secondary syphilis, chancroid, lymphogranuloma venereum, granuloma inguinale, carcinoma of the vulva or cervix, trichomonal or candidal vulvitis, genital trauma, including the necrotic action of potassium permanganate tablets to procure abortion, genital herpes simplex, genital (sacral) herpes zoster, genital scabies, vulval ulcers due to Behçets syndrome, and simple furuncle. A provisional clinical diagnosis must always be supported by laboratory tests.

Identification of *T. pallidum*.—Serum obtained from either the primary chancre or by aspiration of an enlarged regional lymph node is examined by the dark ground illumination method. This is usually performed in the clinic and provides the quickest method of diagnosis; if necessary it should be repeated on at least two other occasions. If, however, a local

antiseptic or antibiotic has been applied to the chancre, or an antibiotic which is treponemacidal has been injected or given orally, this test will be negative.

Serological Tests.—The Wasserman reaction using a cardiolipin antigen (C.W.R.) is negative in the earlier part of the primary stage and then becomes positive and remains so for the rest of the early phase. A quantitative flocculation test (V.D.R.L.) is also used. These tests, however, may be positive in some patients with other diseases, such as glandular fever, virus pneumonia, after vaccination, during pregnancy, or with types of collagen disease. These patients are termed "biologic false positive" (B.F.P.) reactors.

The Reiter's protein complement fixation test (R.P.C.F.T.), which is a group specific test using the non-virulent Reiter treponeme, will help to indicate B.F.P. reactions, but specific verification tests can be obtained from the Venereal Disease Reference Laboratory.* The original *Treponema pallidum* immobilization (T.P.I.) test is now being superseded by the new absorbed fluorescent antibody (F.T.A.-ABS) test, which is simpler to perform and becomes positive at the beginning of the primary stage. Routine tests for syphilis in antenatal clinics have been a significant factor in reducing the incidence of early congenital syphilis to a very low level.

TREATMENT

The drug of choice is penicillin. A 12-day course of procaine penicillin, 600,000 units intramuscularly, gives a 95% cure rate. Patients with clinical or serological relapse can be successfully retreated with a 24-day course. Penicillin-hypersensitive patients may be given a tetracycline (500 mg six-hourly for 15 days).

FOLLOW-UP

After the first injection of penicillin surface treponemes rapidly disappear. A febrile (Herxheimer) reaction occurs in half of the patients within 6 to 12 hours of the first injection only, and they should be warned of this. The C.W.R. and quantitative (V.D.R.L.) test will revert to negative in 9 to 16 weeks. Examination and blood tests are repeated monthly for three months, three-monthly for nine months, and six-monthly in the second year. Test on the spinal fluid for cells, protein, C.W.R., R.P.C.F.T., and Lange curve should be negative at the end of the first year. Women should be retreated with a ten-day course of penicillin at the first pregnancy after the initial treatment, but treatment in subsequent pregnancies is unnecessary. The highest risk of relapse is in the first six months of surveillance, during which time further sexual intercourse should be avoided.

(To be concluded in next week's B.M.J.)

* Address: London Hospital, London E.1.