Re-emergence of syphilis

Recent reported outbreaks of early syphilis in Bristol, Manchester (Communicable Disease Report, 2000a) and Brighton (Communicable Disease Report, 2000b), and further afield the epidemic in Russia (Borisenko et al, 1999) and in some groups in the USA (Drusin, 1996), remind us that this classical venereal disease, often overlooked when making a diagnosis, should not be forgotten. After a peak incidence at the end of the Second World War, the disease became uncommon in Western Europe, except in discrete groups such as homosexual men, prostitutes or intravenous drug users. By 1995 an incidence of around 1 per 100 000 was the typical figure for Western Europe.

Even in homosexual men, from 1982 reported cases of syphilis dropped because of fear of acquired immuno-deficiency syndrome (AIDS) and education about safer sex. However, between 1986 and 1990 there was the largest increase of early syphilis seen for 40 years in the USA (Drusin, 1996), which peaked in 1990 with 50 223 cases. There was also a rise in congenital syphilis. It occurred mostly in poorly educated, socially deprived black people in urban areas using crack cocaine. Prostitution played a role, together with multiple partner changes and failure to use condoms. There is recent evidence that early syphilis in human immunodeficiency virus (HIV)-infected homosexuals is being seen again in the USA (Communicable Disease Report, 2000b).

From 1995 disturbing reports appeared of increasing syphilis and gonorrhoea in the countries of the former Soviet Union (Borisenko et al, 1999). In 8 years to 1997 rates of syphilis notification in the Russian Federation had risen to 277 per 100 000 total population, a 43-fold increase over 1989 levels, with rises proportionally larger among young women. There has also been a dramatic increase in congenital syphilis reported in many Russian cities. An increase in syphilis has also been reported in the Caucasus republics, Ukraine, Moldova, and Belorussia, and the Baltic States, Estonia, Latvia and Lithuania. There is some evidence that the epidemic may be decreasing. Where there had been a low incidence, as in Poland and Hungary, there remains a low incidence but there are sporadic increases especially near the Russian border and, in the case of Hungary, near former Yugoslavia as well.

There are many factors, including enormous social changes, increasing poverty, unemployment and prostitution, combined with increased mobility of the population and sexual contacts with travellers in a society with often little knowledge about sexual health. Medical services have had funding reduced as the value of currency has declined.

In the UK, three recent outbreaks have caused concern. In Bristol in 1997 and 1998 a heterosexual outbreak occurred, the main factor being unprotected sex and multiple partners (Communicable Disease Report, 2000a). In Manchester, in 13 months in 1999–2000, 34 cases were seen where previously only 2 cases per year were seen (Communicable Disease Report, 2000a). Of these, 24 (70%) were in homosexuals and 9 were known to be HIV antibody positive. In early 2000 another outbreak of early syphilis, homosexually contracted, has been reported in Brighton (Communicable Disease Report, 2000b).

HIV AND SYPHILIS

Genital ulcer disease often with no definite clinical diagnosis is common in Africa and Southern Asia, both major prevalence areas for HIV infection. Syphilis and HIV infection are closely linked in many geographical areas. It is known that genital ulcer disease increases the risk of HIV transmission (Royce et al, 1997). It is also known that patients with syphilis are more likely to be HIV antibody positive than other patients in sexually transmitted diseases (STD) clinics.

CLINICAL FEATURES

Syphilis is no respecter of persons or position in society. Its classical course may well be modified by immunodeficiency as in HIV infection or when treponemocidal antibiotics are given for some other reason. In modern times, the manifold early manifestations of syphilis are easily forgotten and relatively banal infections such as scabies or genital herpes may be wrongly considered as diagnoses.

The incubation period is 10–90 days. Classical signs are described in any standard textbook. The primary stage is the chancre at the site of inoculation and regional lymphadenopathy. From 1 to 6 months, usually around 6 weeks, the signs of secondary syphilis will occur if treatment has not been given. Apart from mucocutaneous signs and lymphadenopathy, systemic symptoms such as anterior uveitis, hepatitis, nephrosis, periostitis, auditory neuritis, and signs of meningeal involvement should not be forgotten.

Early syphilis may well be encountered in HIV patients. After secondary syphilis the signs gradually clear. A long period referred to as latent syphilis then occurs in which there is no sign of the disease except positive serology. Later, benign tertiary

syphilis, the main lesion being the gumma, cardiovascular syphilis or neurosyphilis, may all occur. Anecdotal evidence would suggest neurosyphilis may occur not infrequently in HIV-infected patients, often at an early stage where altered immunity may alter various responses to both disease progression and therapy.

A mother with untreated syphilis may abort or give birth to a stillborn fetus or baby with congenital syphilis. Recent reports from the USA (Drusin, 1996), and the countries of the former Soviet Union (Borisenko et al, 1999) have shown an increase of congenital syphilis in mothers who have been undiagnosed or left untreated during pregnancy.

DIAGNOSIS

In the primary stage, demonstration of *Treponema pallidum* by dark field microscopy always used to be described. In practice the application of this technique is decreasing because of the infrequency of syphilis in the UK.

Serological tests for syphilis (Clinical Effectiveness Group, 1999) can be divided into reagin tests such as veneral disease research laboratory (VDRL) tests, which are non-specific, and specific tests. *Treponema pallidum* haemagglutination assay (TPHA), fluorescent treponomal antibody absorption test (FTA-ABS) and enzyme immunoassay. VDRL or rapid plasma reagin test and TPHA or enzyme immunoassay for immunoglobulin G or M are usually used for screening. FTA-ABS should be requested if primary syphilis is suspected as it is the first test to be positive and is reactive in 70–90% of cases. All tests are almost invariably positive in secondary syphilis. Positive tests must always be repeated to confirm the result. A rising FTA-Abs immunoglobulin M titre is the most useful indicator of new acquired infection or fresh congenital syphilis.

THERAPY

A specialist physician should always be consulted in any case where syphilis is suspected. There are a number of antibiotics which will give treponemicidal levels. In general, a course of bicillin equivalent to procaine penicillin remains that of choice, but doxycycline, tetracycline, amoxycillin, and benzathine penicillin may all be used if the circumstance warrants. There is a national guideline for the management of early syphilis (Clinical Effectiveness Group, 1999). Follow up is essential.

PARTNER NOTIFICATION

Contact tracing is essential for every case (Clinical Effectiveness Group, 1999). Every department of genitourinary medicine has professional staff (health advisers) who assist specialist medical staff in this task. There is an ethical duty to seek out sexual partners who may be infected with a disease in which there are serious consequences for those left untreated.

Contact tracing needs many diplomatic skills. It must be emphasized that within the UK all advice and treatment is confidential and free. There is a national service of clinics attached to almost every district general hospital. A phone call to the genitourinary physician will make all the difference between good and poor practice.

SCREENING

Over the last few years with the decline in infectious syphilis in Western Europe there has been debate over whether antenatal screening was cost effective. With recent outbreaks in the UK and increasing syphilis throughout Europe, it seems that existing antenatal screening should certainly remain. Screening of donors is advocated in the Blood Transfusion Service and for all other services when human tissues are donated.

Although few cases of late syphilis are found anywhere in Western or Central Europe nowadays, screening for syphilis if at all suspected is good practice. It must be remembered that there are many migrants into Western Europe who come from areas where syphilis is still frequent. That syphilis still occurs may come as unpleasant reminder to many a clinician but the Oslerian adage to never forget syphilis is as true now as nearly a century ago. HM

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KEY POINTS

- Infectious syphilis still occurs in the UK.
- Recent outbreaks have occurred in Bristol, Manchester and Brighton.
- It is seen frequently in the USA in underprivileged groups. Ethnicity, prostitution and crack cocaine use are cofactors.
- In the former Soviet Union there has been a dramatic rise of infectious and congenital syphilis.
- Human immunodeficiency virus infection may well alter the clinical course and treatment response in syphilis.
- Modern diagnostic serology for syphilis may need interpretation by a specialist.
- In cases of suspected syphilis, specialist advice should always be requested.
- Partner notification (contact tracing) is essential.
- Screening for syphilis still occurs in several scenarios.

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