

MEDICAL PRACTICE

Gynaecology in General Practice

Venereal Disease in Women—II

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Gonorrhoea

Gonorrhoea is caused by a Gram-negative diplococcus, the *Neisseria gonorrhoeae*, and has an incubation period of two to ten days. The organism is capable of penetrating undamaged columnar epithelium, and commonly affects the lower genitourinary tract. It may, however, also invade the upper genital tract in women and, very occasionally, the upper urinary tract. Infection of the anorectum, occurring in up to 50% of patients, is usually secondary to genital tract infection but may sometimes occur directly as a result of anal intercourse.

The eye of an adult is rarely affected by inoculation, but it is not uncommon for the eye of the newborn infant to be infected at birth from the mother's genital tract. The oral cavity may be infected (tonsillitis) as a result of the orogenital contact. Septicaemia may occur in infected women at confinement, miscarriage, abortion, or during dilatation and curettage. This may result in pyoarthritis, usually of a joint in the arm, septicaemic skin lesions, acute endocarditis with septic emboli, or anterior uveitis. Girls may be accidentally infected (vulvovaginitis) by their parents, especially if they share a bed.

The infective phase of the disease probably lasts for many months in women, who often remain symptomless. A chronic non-infectious stage is more difficult to assess, because if the causative organism cannot be isolated the clinical conditions cannot be distinguished from those of non-specific genital infections, which are still of uncertain causation.

In 1969 14,518 cases of gonorrhoea in women were seen in the clinics, compared with 12,084 in 1968. Gonorrhoea is now

the second commonest reported communicable disease after measles.

DIAGNOSIS

At present there is no suitable serological test for gonorrhoea. The gonococcal fixation test (G.F.T.) is neither sufficiently sensitive nor specific for routine use.

Clinical Examination.—It is essential to realize how commonly women with gonorrhoea are completely without symptoms. Over half the women diagnosed in the clinic complain of no vaginal discharge or urinary tract, pelvic, or rectal symptoms. The remainder complain of a yellow vaginal discharge (often due to associated trichomoniasis), dysuria, or frequency but only occasionally trigonitis or haematuria. Pelvic involvement can produce symptoms of backache, menorrhagia, congestive (premenstrual) dysmenorrhoea, dyspareunia, or lower quadrant abdominal pain. Proctitis may be suggested by complaints of rectal discharge or bleeding with pain on defaecation, but these symptoms are relatively rare.

The patient is examined on a couch in the lithotomy position; the vulva is inspected and the inguinal glands felt. Other conditions of the vulva, perineum, or pubic region are excluded, then a speculum (Cusco type) is inserted without any lubricant other than water. The cervix is exposed, and the necessary specimens, including smears for cytology, taken from the vagina and cervix. The speculum is removed, the urethra massaged through the anterior vaginal wall, and specimens taken. If indicated, further specimens are taken from the Skene's or Bartholin ducts and any local complication noted. A rectal speculum is then passed and specimens are taken, any clinical evidence of proctitis being noted. Finally, abdominopelvic examination for any evidence of pelvic inflammation is performed. The patient's temperature is taken when indicated and a general examination of the other systems made.

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Any woman who is a known gonorrhoea contact should be persuaded to have tests done even if she is menstruating, as any delay in diagnosis may result in infection spreading to the upper genital tract; this usually occurs at this point in the menstrual cycle. It is interesting that at present no routine tests for gonorrhoea are performed on pregnant women in antenatal clinics. These tests should at least be done on pregnant women in a high risk group.

Smear Tests.—These are taken from the urethra, cervix, and rectum and examined by Gram-staining and if available by the immediate fluorescent (F.A.) technique; vaginal tests are not essential. The presence of intracellular Gram-negative diplococci is group-specific to the *Neisseria*, but a positive fluorescent test is almost certainly organism-specific; this type of test may be difficult to read owing to background fluorescence.

Culture Media.—Stuart's culture medium will keep the gonococcus alive for a few days at refrigerator or room temperature while in transport to the laboratory. Enriched media such as McLeod's chocolate agar, hydrocoele agar, or 10% haemolyzed horse blood agar are excellent for the growth of *Neisseria* if the pH is 7.5, the incubating temperature 36°C for 48 hours, and the atmosphere humid with an increased proportion of CO₂. Recently selective growth has been greatly improved by the addition of a selective antibiotic (Thayer Martin medium). The best results are obtained with vancomycin, colistin, nystatin, and trimethoprim all added. In the United States a combined transport and growing medium (Transgrow) has recently been introduced; this may be of particular use in general practice in the future.

A diagnosis may be made by applying oxidase reagent, which will stain *Neisseria* colonies purple, to the culture plate.

If tests are negative they should be repeated on at least two further occasions and the patient kept under observation. With the newer diagnostic techniques gonorrhoea can be diagnosed in up to 90% of all the primary and secondary contacts with the disease.

TREATMENT

Recently there has been evidence that some strains of gonococci have become partly penicillin resistant, and therefore larger dosage has been used. It seems important to obtain as high a cure rate as possible. At present this can be obtained in uncomplicated cases by giving probenecid 1 g followed in 15 to 30 minutes by benzylpenicillin 5 mega units in 8-10 ml of 0.5% lignocaine in a single intramuscular injection. There has been a reported cure rate of 99.5%. If the patient is penicillin hypersensitive she can be given either kanamycin 2 g intramuscularly in a single dose or

trimethoprim/sulphamethoxazole in an initial dose of four tabs., followed by a further four tabs. in 24 hours and then two tabs. twice daily for a further three days. If, however, the patient has any type of pelvic or septicaemic complication she will need admission to hospital, where she should be given benzylpenicillin 1 mega unit six hourly for eight days. Possibly small doses of prednisone at the beginning of a course given for pelvic complications will diminish the chances of tubal block and consequent sterility. Patients with a Bartholin abscess or cyst may need to be referred to the gynaecologist for a marsupialization operation.

FOLLOW-UP

Patients are most likely to relapse in the first two weeks after treatment. Any failure of treatment during this period has to be carefully assessed from the point of view of possible reinfection. If the gonococcus reappears in the tests after two weeks reinfection is fairly certain. Specimens from the urethra, cervix, and, when indicated, the rectum are examined by smear and culture. Fluorescent tests are not reliable as they appear to remain positive after antibiotic therapy. On the other hand, this method may be used to establish the diagnosis in a patient who has already received treatment from a general practitioner. Surveillance is continued over a 12-week period with blood tests to exclude incubating syphilis. The patient is asked to avoid alcohol for several weeks, and sexual intercourse must not be resumed with any contacts until all are considered free of infection from gonorrhoea or any other concomitant sexually transmitted infection for which the patient is being treated.

Chancroid

Chancroid is now very rare in the United Kingdom, especially in women. Only three cases were reported in women in 1969 and only two in 1968. It is caused by a small Gram-negative bacillus—the *Haemophilus* of Ducrey. The incubation period is from two to five days, after which multiple painful ulcers appear on the vulva; in some patients the infection spreads to the inguinal glands with the formation of a suppurative adenitis (bubo). Diagnosis used to be made by an intradermal test (Ito test), but the vaccine is not now available. The organisms may occasionally be identified by Gram-stained smear or on blood culture.

The treatment is with a sulphonamide, and a ten-day course is needed. Sulphamethoxazole/trimethoprim four tabs. daily would be suitable. Streptomycin 1 g daily is also effective. Both types of treatment may be combined. A bubo may need aspiration.

(Part III will appear next week)