ABC of Sexually Transmitted Diseases

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VAGINAL DISCHARGE—MANAGEMENT

Vaginal candidosis

Management

Vaginal pessaries:

Nystatin
Clotrimazole
Miconazole
Econazole

Genital hygiene

Clean
Dry
Avoid trauma or irritation

Assess clinical and microbiological response

Treat other infections / conditions

Despite the introduction of a new oral antifungal agent (ketoconazole) the cornerstone of the treatment of vaginal candidosis is still local pessaries. Straightforward nystatin pessaries (two of 100 000 units each inserted into the vagina at night for two weeks) have stood the test of time. Their rather dry brittle consistency and the length of treatment, however, often raise doubts about patient acceptability and compliance. More recently introduced imidazole preparations (clotrimazole, miconazole, econazole) are softer and need only be prescribed for shorter periods—for example, clotrimazole pessaries 200 mg nightly for three days or 100 mg nightly for six days. Vulval irritation may be relieved by local nystatin or clotrimazole cream applied twice a day.

The condition may recur, but recurrence is also often preventable and it is always worth explaining simple methods of genital hygiene and the possible precipitating factors to the patient at the time of her initial attack, since this may help the condition to resolve and prevent recurrences. The patient should be advised to keep the genital area clean, dry, and untraumatised, ideally by not wearing nylon pants, tights, or jeans. Since autoinfection from the bowel may occur cleaning with toilet paper should be in a backwards direction.

Predisposing factors—Trauma to the vaginal mucosa may predispose to infection and may occur during intercourse or when vaginal deodorants, perfumed soaps, and bubble baths are used. The patient may require additional lubrication with K-Y jelly during sexual intercourse. Pregnancy, iron deficiency anaemia, antibiotics, corticosteroid and immunosuppressive treatment, diabetes, orogenital contact, and the presence of other sexually transmitted diseases have all been implicated in both initial and recurrent disease. The sexual partner may occasionally be the source of infection and reinfection.

Follow up—All patients should be seen at least once after treatment to assess the clinical and microbiological response and so that any other treatment may be started if additional sexually acquired infections have been identified in the laboratory after the initial set of tests at first consultation.

Treatment of relapsing infection—A relapse shortly after initial treatment needs a longer course of treatment—for example, if clotrimazole is used 100 mg should be given daily for 12 days. If this regimen fails an increased dose of 200 mg daily should be given for 12 days. Controversy exists about whether this should be combined with oral nystatin 500 000 units every eight hours for one to two weeks to combat possible reinfection from the bowel since recolonisation occurs rapidly after treatment has been stopped.

Sexual contacts—Candidosis is not usually sexually transmitted but male contacts should be seen, firstly, if they have symptoms and, secondly, if the woman is having repeated recurrences. The man should be thoroughly investigated, as was his female partner, to make sure that he has no concurrent sexually transmitted disease, since this is likely to predispose to candidal infection. Candidal balanitis is treated with saline bathing and application of nystatin or clotrimazole cream.

Ketoconazole is expensive, produces side effects, and has not been fully assessed for use in vaginal candidosis. At present it is best reserved for chronic mucocutaneous candidosis and possibly superficial mycoses.

See male contacts if:

They have symptoms
Their partner has recurrences

Trichomoniasis

Management

Clinical history
 Confirm by microbiological diagnosis
 Treat with metronidazole, avoid alcohol
 Follow up
   Assess microbiological response
   Repeat treatment if necessary
 Investigate and treat sexual contacts

Treatment failure

Reinfection
 Non-compliance
 Poor absorption
 Inhibition by vaginal bacteria

Always investigate
 sexual contact

Infestation with *Trichomonas vaginalis* should be treated with metronidazole 400 mg twice daily for five days or a single dose of metronidazole or nimorazole 2 g. The patient should be warned of the possible disulfiram like (Antabuse) effect of these drugs in association with alcohol. Unless patients are warned they quite logically give up the tablets rather than the alcohol. Patients should be followed up at least once for microbiological tests of cure after treatment, and so that any other infections detected may be treated. Patients not responding to treatment should be given metronidazole 800 mg every 12 hours for five days. Continued failure usually indicates that (a) the patient is being reinfected by her sexual partner; (b) she is not complying with the medication; (c) the drug is not being absorbed; or (d) it is being inhibited locally by vaginal bacteria. Sometimes patients need to be admitted to hospital for supervision of treatment. The serum concentrations of metronidazole may be estimated and vaginal bacteria inhibiting the action of the drug detected in patients who fail to respond to treatment but are complying and not being reinfected.

Treatment in pregnancy—Laboratory studies on animals have suggested that massive doses of metronidazole are teratogenic, even though this effect has not been reported in humans. It is therefore probably unwise to use it in the first trimester of pregnancy. Though not specific for *T vaginalis*, local pessaries may be used—for example, hydrargaphen, acetarsol, povidone-iodine, or clotrimazole. Metronidazole may pass into breast milk and should therefore not be used during lactation.

Since *T vaginalis* infestation is usually sexually acquired and often occurs concurrently with other sexually transmitted infections—for example, with gonorrhoea in 19% of cases—it should never be treated without full microbiological investigations and examination of regular sexual contacts. The organism is extremely difficult to identify in the male urethra, and usually the contacts are given a course of metronidazole even if trichomonads cannot be detected after examination and testing. This does not, however, imply that contacts should be treated by proxy. In view of the high incidence of associated infections all regular contacts should be seen and have microbiological tests performed.

Other infections

Management

Uncomplicated gonorrhoea
 Penicillin
 Chlamydial infections
 Tetracycline
 Contacts of men with chlamydia
 negative non-gonococcal urethritis
 Tetracycline
 Gardnerella infections
 Metronidazole

Both uncomplicated gonococcal and chlamydial infections in women are treated as for men (see previous article) with the same doses of penicillin or tetracycline. Female contacts of men with chlamydia negative non-gonococcal urethritis should be treated with tetracycline despite the absence of an organism.

Gardnerella infections should be treated with metronidazole 400 mg twice daily for five days. Since the condition may be sexually acquired ideally male contacts should also be seen.

Management by the non-specialist

Epidemiological studies and ad hoc surveys of women attending gynaecology, obstetric, and family planning clinics indicate that candidosis is more common than either trichomoniasis or gonorrhoea. Nevertheless, studies in departments of genitourinary medicine indicate that gonorrhoea, trichomoniasis, and candidosis may occur concurrently. For these reasons the non-specialist may adopt various methods of management of genitourinary symptoms, depending on his own circumstances and the availability of laboratory facilities.

The academic approach—Because the common conditions causing vaginal discharge with or without vulval irritation may occur concurrently microbiological specimens should ideally be taken from all patients presenting with vaginal discharge. A speculum should be passed and endocervical and vaginal specimens obtained (see previous article). If the doctor has a microscope and Gram staining facilities he can exclude candidosis, trichomoniasis, and gonorrhoea. Microscopy is fallible in all of these infections and specimens should be sent to the laboratory. Unless a microscopic diagnosis is made treatment should be withheld until the results have returned from the laboratory.

The realistic approach would be to perform the tests as above but to start treatment at the first consultation on the basis of the patient's history, absence or presence and type of symptoms in the sexual partner(s), examination, and the knowledge that common things occur commonly—namely candidosis. This course should be followed only if the doctor insists on a follow up visit to assess the patient's progress and determine whether the correct treatment has been given in the light of the microbiological results.

For both the academic and realistic approaches contact tracing is an essential aspect of managing a sexually acquired infection. Both the source of infection and those who may in turn have been infected by the patient should be traced. The non-specialist often forgets that

for each patient sitting in front of him there are at least two others infected in the community.

The pragmatic approach—Vaginal discharge with or without vulval irritation is a common presenting symptom and is most often due to an infection with *Candida albicans*. Therefore empirical treatment may be given without microbiological confirmation. This approach is contrary to that practised by the genitourinary physician, and, although the ideal would be to carry out microbiological investigation on all patients, limitation of resources and time may preclude this. This approach is reasonable so long as three fail safe mechanisms are observed. Firstly, an accurate clinical and sexual history must be taken to identify the high risk patient who needs tests or referral (see previous article). Secondly, combined treatment schedules now available for candidosis and trichomoniasis should not be used as these may appear to cure the patient by relieving the symptoms of these two diseases but leave untreated the associated asymptomatic gonorrhoea. Single treatment is still recommended in the absence of gonorrhoea since a correct diagnosis of trichomoniasis needs to be established so that contact tracing may be undertaken. These problems may be overcome to some extent by the third fail safe mechanism, which is to insist that the patient returns for follow up after treatment. If symptoms are still present a concurrent sexually transmitted disease or wrong initial diagnosis may be possibilities, and the patient will need microbiological tests or referral to a department of genitourinary medicine.

The pragmatic approach is treatment before diagnosis and is acceptable only for low risk patients who will return for reassessment after treatment.

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Management of vaginal discharge outside departments of genitourinary medicine