SYNDROMIC MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS

Infections by organisms other than HIV that are transmitted by sexual contact are referred to as classic sexually transmitted infections (STIs).

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Many factors have contributed to the large epidemic of classic STIs in South Africa today, including the entrenched migrant labour system, socio-economic and gender inequalities, the failure of prevention programmes and poor access to and quality of health services. STIs may cause morbidity and mortality directly through their impact on reproductive and child health (complications include infertility, chronic pain, spontaneous abortion and ectopic pregnancy in women and premature birth and stillbirth, low birth weight, neonatal pneumonia, congenital conditions and blindness in babies born to infected mothers). However it is the indirect role of STIs in facilitating the sexual transmission of human immunodeficiency virus (HIV) that has brought the importance of treating classic STIs to the fore.

Both discharges and ulcers of the genital tract result in increased susceptibility to HIV infection in the HIV-negative partner. In addition the HIV-infected partner is more infectious in the presence of these STIs as there is increased HIV viral shedding when an HIV-positive partner has an STI.[1] The strength of association appears to be strongest for classic STIs that cause genital ulcers (i.e. chancroid, syphilis and herpes), and much weaker for STIs that cause discharges (i.e. gonorrhoea, chlamydia and trichomoniasis). Studies show that asymptomatic infection with STIs is common but there is uncertainty as to the relative significance of asymptomatic infections in the transmission of HIV.

The World Health Organization (WHO) estimates that 75 - 85% of the approximately 340 million new cases of the four main curable STIs (gonorrhoea, chlamydial infection, syphilis and trichomoniasis) occur every year in developing countries.[2] In South Africa most STI surveillance data are obtained from surveys of women attending antenatal clinics and family planning clinics. The average prevalence observed in women at family planning and antenatal services is 5% for gonorrhoea, 7% for syphilis, 11% for chlamydia, and 30% for trichomoniasis.[3]

STIs in South Africa have been inadequately managed in both the public and private health sector. Studies evaluating the management of STIs in public health facilities have found that clinical skills are lacking (thorough examinations including speculum examinations were not performed[4]) and appropriate health promotion of STI prevention is often absent (most patients did not receive drug information and adequate counselling and were not shown how to use condoms).[5]

Barriers to controlling STIs also include the social stigma associated with seeking STI treatment and the failure to encourage partner referral for treatment and ensure compliance. Surveys of health-seeking behaviour in developing countries indicate that a substantial proportion of people with symptomatic STIs seek treatment in the informal or private health sector, which is often more accessible and convenient and where the services are more confidential, less judgemental, and less stigmatising.[6] However, a study of private doctors in South Africa reported that fewer than 1 in 10 patients received adequate doses of antibiotics and in 75% of cases an incorrect drug was prescribed.[7] This lack of effective management of symptomatic individuals presenting to services for care remains a serious problem.

SYNDROMIC MANAGEMENT OF STIs

The WHO recommends that STIs be managed at the first point of contact with the health services, using the syndromic approach. The aim is to improve the quality of care of persons with STIs. The provision of information, education and counselling on the mode of transmission of STIs, as well as counselling on compliance and the treatment of partners, is recommended. Since 1990 it has been promoted in a large number of developing countries.

The main STIs are classified by clinical syndromes — a combination of symptoms a patient complains of, and signs identified during the clinical examination. An STI syndrome is identified and then treated with combination therapy for all the common causes of the syndrome. The syndromic approach enables health care providers to make a diagnosis within a short time without special skills and sophisticated laboratory tests. Algorithms or flow charts are used to guide health care providers in diagnosing and treating diseases within a particular syndrome. Local data on the aetiology of different syndromes, the antimicrobial susceptibility patterns of pathogens and the availability of drugs should all be considered when adapting algorithms to local situations. Table I lists the advantages and disadvantages of syndromic management of STIs.

SYNDROMIC MANAGEMENT PROTOCOLS

The South African syndromic management protocol was developed following wide consultation with service providers, programme managers and academics in South Africa. The management of an individual STI case should always include the following steps:[11]

- Adopt a non-judgemental, caring and positive attitude. Ensure privacy and ensure all information will be kept confidential.
- Take a medical and sexual history (include an assessment of the risk of exposure to an STI) and a history of drug allergies.
- Perform a physical examination. This should include a search for any signs of HIV disease, a bimanual digital examination in women to exclude cervical motion tenderness and a speculum examination. Feel and view the cervix.

Table I. **Advantages and disadvantages of syndromic management of STIs**

ADVANTAGES
• Highly sensitive when used to detect infection among symptomatic patients, does not miss mixed infections, which are common[6]
• Treatment is given at first visit so delays in treatment are avoided and the patient is not lost to follow-up before treatment is initiated — this increases client satisfaction, and reduces further transmission and complications from untreated infections[8]
• Provides opportunity and time for education and counselling[6]
• Avoids expensive laboratory tests
• Can be implemented at primary care level because it is easy to use, does not require highly trained STI specialists
• Limits referral to specialist centres
• Problem-orientated (based on patient's symptoms)[6]
• High rates of cure,[9] provided that the effectiveness of the drugs selected is adequate and properly monitored
• The use of flow charts standardises diagnosis, treatment, referral and reporting, allowing for improved surveillance and programme management[8]
DISADVANTAGES
• Over-diagnosis and over-treatment that may result in increased drug costs, possible side-effects of multiple drugs, alterations in vaginal flora and potential for increased drug resistance[6]
• Cannot be used to detect infections among asymptomatic individuals
• The syndromic approach for vaginal discharge is poorly predictive of the presence of cervical chlamydial and/or gonococcal infection[9]
• Over-treatment of partners of women with vaginal discharge, most of whom do not have an STI, may lead to potentially serious social and physical consequences for the female index case[10]
• Not easily accepted by doctors as thought of as inferior quality[9]
• Does not address the issue of poor treatment-seeking behaviour by symptomatic individuals[8]

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Carcinoma of the cervix must be excluded. Remember that one patient can have more than one STI syndrome.

- Establish a diagnosis and provide treatment. Identify one or more of the syndromes based on symptoms and signs and treat according to the appropriate protocol(s).
- Do an RPR test for syphilis. Ask the patient to return for the results and if positive, administer benzathine penicillin 2.4 MU IMI weekly for 3 weeks.
- Promote VCT since patients presenting with symptomatic STIs might be co-infected with HIV. Inform the patient that a negative HIV test result needs to be confirmed after 3 months.
- Educate and counsel the patient on how to prevent subsequent episodes of disease including risk reduction and on the importance of completing treatment.
- Promote the use of the condoms and demonstrate how to use them.
- Provide partner notification slips.

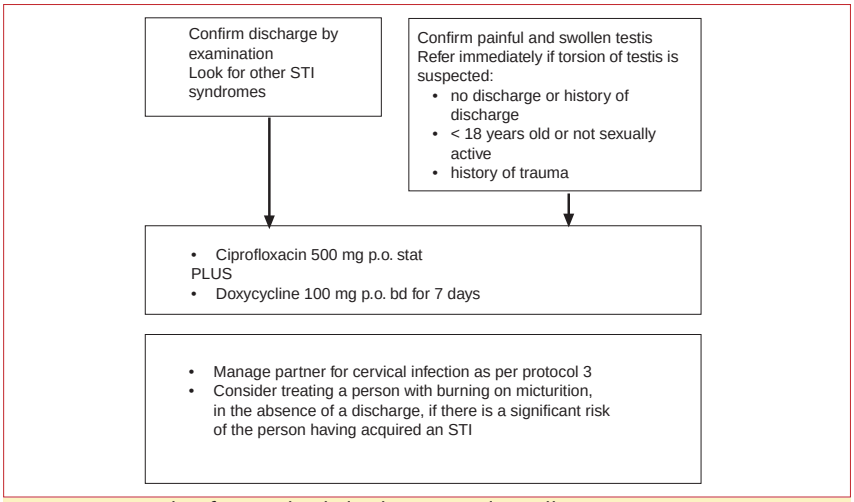

Fig. 1. Protocol 1 for urethral discharge and swollen testis.

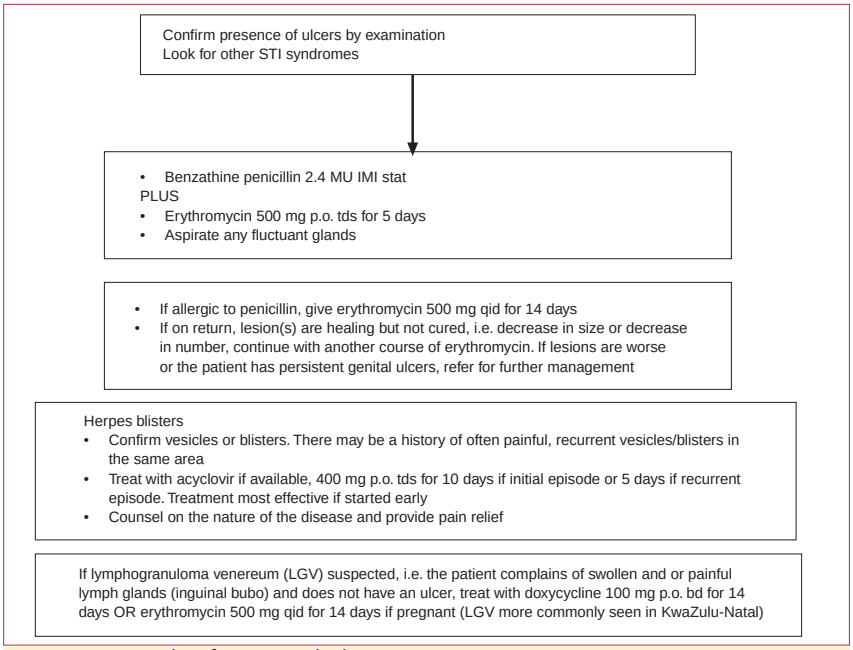

Fig. 2. Protocol 2 for genital ulcers.

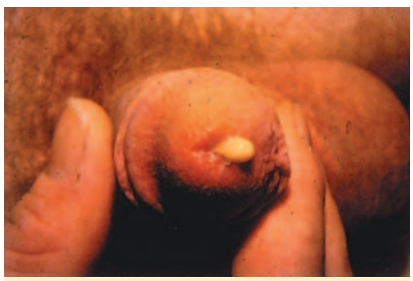

Fig. 1a. Urethral discharge.

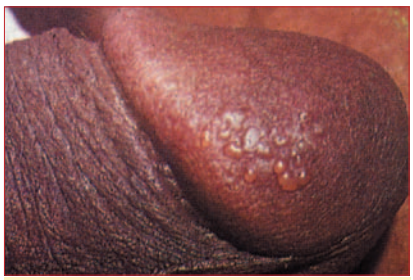

Fig. 2a. Herpetic vesicles.

THE PROTOCOLS

The Department of Health will be publishing revised protocols in the near future.

The protocols 1 - 4 from the Department of Health's 'Protocols for the management of a person with a sexually transmitted disease according to the Essential Drugs List',[11] are described in Figs 1 - 4.

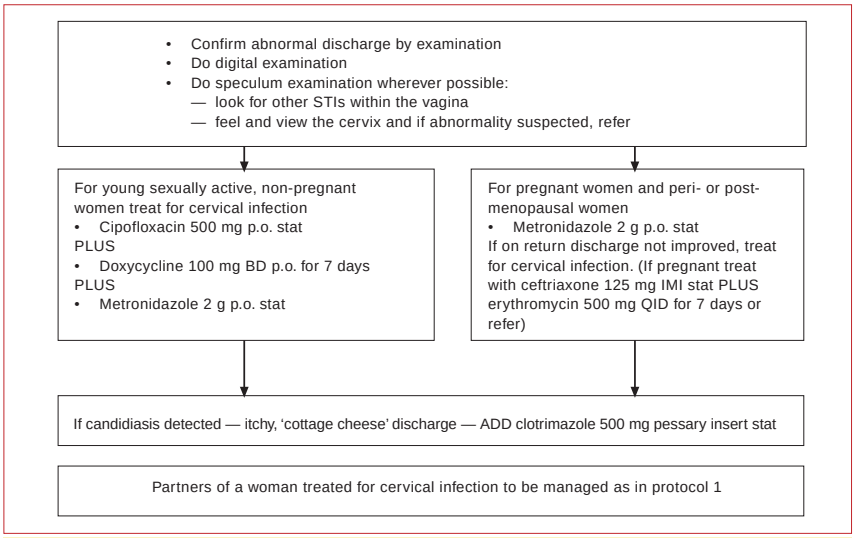

Fig. 3. Protocol 3 for vaginal discharge.

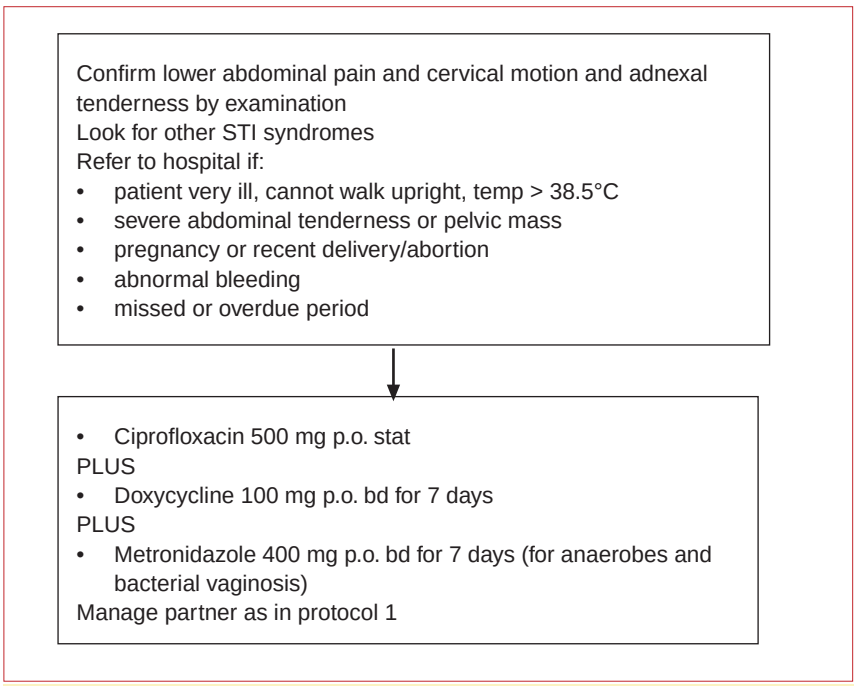

Fig. 4. Protocol 4 for lower abdominal pain in women.

Protocol 1: Urethral discharge and swollen testis

Urethral discharge in men is caused, in most instances, by either gonorrhoea or chlamydial infection, or in up to 30% of cases by both of these together. Both infections are common. Fig. 1a shows a patient with urethral discharge.

Protocol 2: Genital ulcers

In most parts of South Africa genital ulcers are caused by chancroid and syphilis and therefore treatment should be given for both of these infections. However, herpes simplex virus type 2 (HSV-2) has emerged as a significant cause of genital ulcer disease (GUD) (see Fig. 2a). Researchers reported from a recent study in Carltonville that 54% of ulcers were chancroidal, 18% were herpetic, 6.5% were primary syphilitic and 3.2% were due to lymphogranuloma venereum (LGV).[12]

Protocol 3: Vaginal discharge

Infectious discharges in women may arise from the vaginal wall, the commonest of which are trichomoniasis, bacterial vaginosis and candidiasis, but may also be due to cervical infection with *Neisseria gonorrhoeae* and *Chlamydia trachomatis*. The recommendation is to treat for all causative organisms with three antimicrobial agents but to treat for vaginal candidiasis only if there is a clear clinical indication.

- Azithromycin 1 g as a single dose may be used to treat chlamydial infection as an alternative to doxycycline if available. Azithromycin may be used in pregnancy.
- Metronidazole should preferably be avoided in the first trimester of pregnancy.
- Advise the patient not to drink alcohol for 24 hours after taking metronidazole as it can cause nausea and vomiting.

Protocol 4: Lower abdominal pain

- Take a history that includes family planning. Perform a pregnancy test and a Pap smear if indicated.
- Data are insufficient to recommend the use of azithromycin as a component of any oral treatment regimen for pelvic inflammatory disease.

There are also national syndromic protocols for the management of neonatal conjunctivitis and neonates with or at risk of congenital syphilis, which have not been included in this article.

CHALLENGES THAT REMAIN IN STI CONTROL

- Public education to promote awareness of STI symptoms and improve treatment-seeking behaviour.
- Screening for asymptomatic infections and lack of simple inexpensive diagnostic tools for the detection of STIs.
- Improving partner notification.
- Improving the recognition and treatment of STI syndromes and referral practices of pharmacists, GPs and traditional healers.
- Ensuring the availability of effective antibiotics.[8]
- Regular monitoring and evaluation of protocols as well as supervision and training of clinicians.[9]
- The need to integrate STI services

into reproductive health services (such as maternal and family planning clinics since these are usually well attended and integrated services could reach a wider population of women) and HIV/AIDS programmes to provide greater synergy.[6]

- The need to monitor the changing epidemiology of STIs — pathogens resistant to antimicrobials are emerging, herpes simplex virus type 2 is proving to be a significant cause of morbidity and cofactor of HIV transmission. As HSV-2 is now an important cause of GUD, it may be necessary to revise the WHO guidelines for syndromic management of GUD to include anti-HSV treatment.[6]

CONCLUSION

STIs may be simply and effectively managed using the syndromic approach and certainly in the South African context, the advantages of the approach outweigh its disadvantages. Syndromic management of STIs should be offered both in the public health sector and in the private sector where first-line services are offered. In view of the seriousness of the HIV epidemic, the prevention and effective control of STIs are urgent public health priorities.

References available on request.

IN A NUTSHELL

STIs are highly prevalent in South Africa.

STIs may cause morbidity and mortality through their impact on reproductive and child health.

STIs, particularly those that cause genital ulcers, facilitate the transmission of HIV.

STIs have been inadequately managed in the both the public and private health sector of South Africa.

The WHO recommends that STIs be managed using the syndromic approach including education, counselling and partner notification.

An STI syndrome is identified by a combination of symptoms and signs a patient complains of and it is treated with combination therapy for all the common causes of the syndrome.

There are both advantages and disadvantages to managing STIs syndromically but within the South African context, the advantages outweigh the disadvantages.

SINGLE SUTURE

FAST WOMEN CATCHING UP?

If female athletic performance keeps improving at the present rate, the Olympic 100 m track will be dominated by women in 2156. By then, the winner will have reached a speed that would get today's motorists into trouble in a built-up area! So say Andrew Tatum and colleagues, reporting in *Nature*, who have found that winning times for men and women have improved in almost straight lines so far, with women making the more rapid improvement. However, Constance Holden, in a well-researched article in *Science* does not think the gap is closing. In fact, she believes that women are 'barely keeping the guys' taillights in sight'. It's difficult to know who to believe, but simply looking at a graph of the times for male and female 100 m and 200 m Olympic gold medalists from 1928 to 2004 times are certainly falling – for both sexes. The women's time for the 200 m has fallen from about 24.8 seconds in 1948 to just over 22 seconds in 2004. In the 100 m the women's time fell from just over 12 seconds in 1928 to a little over 11 seconds in 2004. Similar time gains are seen in men in the 2 events. Are these time gains due to improvements in training and nutrition, or do they have a lot to do with illegal performance-enhancing substances? That would be a very worthwhile research project, which is, unfortunately, unlikely to ever happen for obvious reasons.

Tatum AJ *et al. Nature* 2004; **431**: 525.
Holden C. *Science* 2004; **305**: 639-640.
Sharp D. *Lancet* 2004; **364**: 2006.