Clinical Tract

Module on

Sexually Transmitted Infections

LEARNING OUTCOMES

After completion of this module the learner should:

- Understand the link between sexually transmitted infections (STIs) and HIV.
- Be able to use the syndromic approach to STIs appropriately.
- Be able to manage the STIs that are not covered by the syndromic approach.
- Be competent to council and educate every patient presenting with an STI.

1. THE LINK BETWEEN HIV AND SEXUALLY TRANSMITTED INFECTIONS

HIV infections in South Africa and indeed throughout the world are mainly acquired through heterosexual contact. The strong association between HIV and other STIs can be simplistically attributed to multiple sex partners, not using condoms and commercial sex. However it is not that simple.

The morbidity of untreated STIs is considerable, especially amongst women and neonates.

STIs and the risk of acquiring HIV

It is essential to treat STIs because most STIs enhance HIV transmission. It increases the infectiousness of a HIV-positive person as well as the susceptibility of the HIV-negative partner by altering the integrity of the mucosal barriers. This is especially true of the STIs that cause genital ulceration. Herpes ulceration increases the risk five-fold; where-as other STIs double the risk of acquiring HIV disease. Herpes infection is recurrent in nature and cannot be cured.

Research has proven that adequate treatment of symptomatic STIs reduces HIV transmission.

The effect of HIV on STIs

Syphilis progresses to the secondary stage more rapidly and more often in HIV-infected individuals. The other bacterial and protozoal STIs respond as readily to treatment in HIV-infected and non-infected individuals.

As the immune system deteriorates with HIV disease, the ulcers of herpes simplex take longer to heal. Herpes ulceration that persists for several weeks is an AIDS-defining condition.

Human papilloma virus can cause anogenital warts or condyloma accuminata. These may become quite large and difficult to treat in HIV-positive individuals. Human papilloma virus is also associated with increased incidence of cervical carcinoma.

Approach to STI diagnosis and treatment

There are two accepted routes to diagnosis:

- The definite aetiological method (with accompanying expense).
- The clinical method where a set of signs and symptoms are expected to be typical, or at least consistent with a given disease.

There are, however, a number of factors that decrease the effectiveness of either method in the diagnosis and treatment of STIs in South Africa.

These include:

- a wide range of presentations of STIs that may range from asymptomatic to advanced or mixed infections,
- the limited reliability of clinical signs and symptoms,
- access to laboratory investigations is limited and expensive,

- even when laboratory access is available, there are inherent delays in reporting test results. It is often impractical for patients to return for these results before the treatment for the STI is initiated.

2. SYNDROMIC MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS

A recent alternative to the aetiological or the clinical approaches is the syndromic case management. This new approach depends on the ability to identify and treat a syndrome (a combination of symptoms and signs) caused by an STI.

The 7 most important STI related syndromes are:

1. Urethral discharge in men
2. Scrotal swelling
3. Vaginal discharge
4. Lower abdominal pain in women
5. Genital ulcer in men or women
6. Inguinal bubo (swelling) without ulcer in men or women
7. Balanitis/balanoposthitis in men

Advantages of the syndromic approach:

- It is easy to use and it is suitable at any level of the health system.
- It is rapid and allows immediate treatment initiation of the STI.
- It provides the opportunity to discuss risk reduction, condom promotion and compliance with medication (at the first visit).
- It is inexpensive, because it does not require expensive laboratory investigations.
- The recommended treatment covers the whole range of infections known to cause the syndrome. Therefore the rate of failure is minimal.
- It can be combined with a simple partner notification system.

Disadvantages of syndromic approach

- Many patients may be over-treated, receiving more drugs than they actually need.
- A multidose regimen may lead to confusion with some patients, thus increasing the possibility of non-compliance.

The control of STIs is based on 3 principles

1. Education of people at risk on modes of transmission of STIs and how to reduce transmission.
2. Effective diagnosis and treatment of patients with symptoms.
3. Detection of STIs in asymptomatic carriers and in people with symptoms who would otherwise not present for consultation.

STIs are diseases of ignorance. Thus prevention is based on providing the necessary information to change patterns of sexual behaviour, which put people at risk.

Each and everyone treating patients with STIs should be able to educate the patients about risk assessment and behavioural choices.

Patients should be counselled on methods to lower their risk of acquiring STIs e.g. abstinence, careful selection of partners, reducing the number of partners, the use of condoms and regular physical examination.

Condoms should be available at outlets that are readily available to the public. Instruction and information regarding their proper use should be provided.

The management of STIs should always include the following:

- Medical and sexual history taking
- Performance of a physical examination
- Establishment of a diagnosis and provision of treatment
- Education and counselling of the patient on:
    - compliance with treatment
    - prevention of complications of STIs
    - risk reduction in acquiring STIs
    - increased risk of HIV
    - prophylactic testing for HIV (also of partner)
- Promotion and provision of condoms and demonstration of their use
- Tracing and treating of sexual contacts.

Based on guidelines of the Standard Treatment and Guidelines and Essential Drug List 2003 Edition (EDL) and other amendments, the following protocols are presently recommended:

3. Protocol 1: Urethral discharge / burning micturition in men

Organisms presenting with these features:

- Gonorrhoea - *Neisseria gonorrhoea*
- Non-gonococcal urethritis – *Chlamydia trachomatis* serotypes D-K
  Ureaplasma urealyticum

Clinical features

- Small to large amount of mucus or pus at end of penis (urethral discharge)
- Staining of underwear
- Burning and/or pain on passing urine
- Frequency of urine

(Other bacterial urinary tract infections should be excluded)

Non-drug treatment

- Counsel on compliance and risk reduction
- Provide condoms and promote consistent use
- Take blood for RPR/VDRL to test for syphilis
- Notify partner to be treated
- Ask to follow-up in 7 days
- Always look for other STIs –treat accordingly if present

Drug treatment

- Ciprofloxacin 500mg PO as a single dose (stat)
- Doxycycline 100mg PO twice a day for 7 days

Drug treatment for female partner

- Ciprofloxacin 500mg PO stat
- Metronidazole* 2g PO stat
- Doxycycline 100mg PO twice a day for 7 days

*Avoid alcohol during treatment and 24 hours after last dose.

Follow-up after 7 days
If no improvement: add Metronidazole 2 g PO to be taken as a single dose. Some people feel that Metronidazole 2 g PO should always be given with the initial treatment, as *Trichomonas vaginalis* causes asymptomatic or recurrent urethritis and is associated with an increased risk of HIV transmission.

Persistent or recurrent urethritis
This may result from poor treatment compliance, re-infection or drug resistance. There is growing evidence that persistent urethritis is due to infection with *Trichomonas vaginalis*.

In case of drug allergy or other contra-indications
- Spectinomycin 2 g IMI or ceftriaxone 125mg IMI stat (Instead of ciprofloxacin)
- Erythromycin 500mg PO 4 times a day for 7 days (Instead of doxycycline)

4. Protocol 2 and 4: Vaginal discharge / lower abdominal pain in women

Organisms presenting with these features
- Gonorrhoea – *Neisseria gonorrhoea*
- *Chlamydia trachomatis* (D-K)
- Candidiasis – *Candida albicans*
- Trichomoniasis – *Trichomonas vaginalis*
- Bacterial vaginosis – Vaginal anaerobes e.g. *Mobiluncus*, genital mycoplasmas

Signs and symptoms
- Excessive vaginal discharge
- Staining of underwear
- Change in the odour of the vaginal discharge
- Change in the colour of the vaginal discharge
- Itching and/or redness of the vulva
- Burning and/or pain on passing urine
- Lower abdominal pain

On examination
All women presenting with vaginal discharge should have an abdominal as well as pelvic examination. This includes visualization of the cervix and a Pap smear.

One or more of the following may be present:
- Vaginal discharge
- Lower abdominal tenderness
- Pain on moving cervix (excitation tenderness)

Always look for another STIs – treat accordingly if present.

Non-drug treatment

- Counsel on drug compliance and risk reduction for transmission of STI and HIV
- Counsel for HIV testing
- Provide condoms and promote consistent use
- Advise on treatment of sexual partner(s)

Drug treatment

Use one of the 5 categories below according to clinical picture and whether the patient is pregnant or not. The patient must be asked to return after 7 days.

Category 1: Non-pregnant women with a vaginal discharge and no excitation tenderness of cervix:

- Ciprofloxacin 500mg PO stat **plus**
- Doxycycline 100mg twice a day PO for 7 days **plus**
- Metronidazole 2 g PO stat

  or

  400mg PO twice a day for 7 days

Category 2: Pregnant women with a vaginal discharge and no excitation tenderness of cervix

- Ceftriaxone 125mg IMI stat **plus**
- Erythromycin 500mg 4 times a day PO for 7 days **plus**
- Metronidazole 400mg twice a day PO for 7 days

(Metronidazole should not be given during first 12 weeks of pregnancy – use clotrimazole vaginal tablets 100mg daily for 7 days.)

Category 3: Clinical evidence of vaginal candidiasis

If there is clinical evidence of vaginal candidiasis add the following treatment to categories 1, 2 or 4:

- Clotrimazole 500mg vaginal tablet inserted at night as a single dose.

Category 4: Non-pregnant women with cervical excitation tenderness

- Ciprofloxacin 500mg PO stat **plus**
- Doxycycline 100mg PO twice a day x 14 days **plus**
- Metronidazole 400mg PO twice a day x 14 days

Category 5: Pregnant women with cervical excitation tenderness

It is rare to have lower abdominal pain due to pelvic infection in pregnancy. If present, these patients are usually severely ill and need referral to a hospital.

When to refer:

- History of missed or overdue period (consider ectopic pregnancy)
- Recent delivery or abortion
- Abnormal vaginal bleeding
- Abdominal rebound tenderness and/or guarding
- Fever $\geq$ 38,5 °C
- Pregnant women with lower abdominal pain related to pelvic infection
- No improvement on treatment or worsening

In case of drug allergy or other contra-indications:

- Spectinomycin 2 g IMI or ceftriaxone 125 mg IMI stat (Instead of ciprofloxacin).

- Erythromycin 500mg PO 4 times a day for 7 days (In stead of doxycycline and safe in pregnancy)

5. Protocol 3: Genital ulceration in men or women

Organisms presenting with these features:
Syphilis – *Treponema pallidum*
Genital herpes – *Herpes simplex virus type1 or 2*
Lymphogranuloma venerium – *Chlamydia trachomatis L1-3*

Symptoms and signs
- One or more ulcers on or around the genitalia
- Small ulcers, often with a history of recurrences, signify genital herpes.

Herpes simplex management:
- Counselling on the nature of the disease with emphasis on possible recurrences
- Lesions should be kept clean and dry
- Secondary infected herpes lesions should be treated with: erythromycin 500mg PO 4 times a day for 7 days
- Pain relief if necessary
- Severe herpes simplex lesions should be treated with acyclovir 400-800mg PO 3 times a day until clinical resolution (usually 7 days).

Non-drug treatment
- Counsel on compliance and risk reduction
- Provide condoms and promote consistent use
- Take blood for RPR/VDRL to test for syphilis
- Notify partner to be examined and treated

Drug treatment of non-herpetic genital ulcers
- Benzathine benzyl penicillin, IMI 2,4 MU stat **plus**
- Erythromycin, 500mg 4 times a day PO for 7 days **or**

Penicillin-allergic patients:
- Erythromycin 500mg 4times a day PO for 14 days.

Request patient to return after 7 days.

Syphilis screening in pregnant women
Take blood for RPR/VDRL.

If positive, treat pregnant woman with:
- Benzathine penicillin 2,4 MU IMI once a week for 3 weeks **or**
- In penicillin-allergy: erythromycin 500mg PO 4 times a day for 28 days.

Plus treat all asymptomatic neonates of mothers with positive RPR test during pregnancy with:
- Benzathine penicillin 50 000 IU/kg IMI stat.

Symptomatic neonate (congenital syphilis):
- Notify (Notification of Medical Conditions Form GW 17/5)

- Refer to doctor!
  (Treatment:
    - Aqueous crystalline penicillin G 100 000 – 150 000 units/kg IMI/IVI, daily in 2 divided doses for 10-14 days

  or
    - Aqueous procaine penicillin G 50 000 units/kg IMI daily for 10-14 days)

All pregnant women

- Educate and counsel, promote couple–counselling if applicable
- Explain risk of vertical transmission
- Promote abstinence from penetrative sex while on treatment
- Promote and demonstrate condom use, provide condoms
- Stress the importance of partner treatment
- Promote HIV counselling and testing (also of partner)

6. Protocol 5: Inguinal swelling/bubo (no ulcer present) in men or women

Organisms presenting with these features:

- **Lymphogranuloma venerium – *Chlamydia trachomatis L*$_{1-3}$**
- **Early Syphilis – *Treponema pallidum***
- **Granuloma Inguinale (Donovanosis) - *Calymmatobacterium granulomatis* (formerly *Donovania granulomatis*) (Mostly in tropical and subtropical areas)**

An inguinal bubo is a transient or recurrent enlargement of the lymph glands in the groin.

Symptoms and Signs

- Swelling in one or both groins
- Swelling may be painful and tender

If an ulcer is also present, follow Protocol 3.

Non-drug treatment

- Counsel on compliance and risk reduction
- Provide condoms and promote consistent use
- Take blood for RPR/VDRL
- Notify and treat partner
- Aspirate any fluctuating local lymph node for symptomatic pain relief

Drug treatment

- Benzathine benzyl penicillin 2,4 MU IMI stat **plus**
- Doxycycline 100mg PO twice a day for **14 days**

or

In case of drug allergy or other contra-indications:

- Erythromycin 500mg PO 4 times a day for **14 days** only.

If Erythromycin is given instead of penicillin, omit doxycycline. Erythromycin is safe in pregnancy and breast feeding.

Look for other STIs and treat accordingly. Request patient to return after 7 days.

7. Protocol 6: Balanitis / Balanoposthitis (Infections of the glans penis)

Organisms presenting with these features:

- Candidiasis – *Candida albicans*

Symptoms and signs

- Patients complain of itching of tip of the penis and/or foreskin.
- On examination a thin white film on glans and/or foreskin.
- Look for other STIs, and use appropriate protocol if there is an ulcer or urethral discharge.
- In the absence of other findings, the likely diagnosis is candidiasis (moniliasis).
- This can be confirmed with wet smear. On microscopy one can observe large oval yeast-like cells and elongated pseudohyphae to confirm the diagnosis.
  Use of 10% KOH as mounting medium in the wet preparation improves the visualization of the fungal elements by dissolving cellular material.
  (Put 1 drop of discharge on microscope slide. Add 1 drop 10% KOH solution. Stir with matchstick for 5 seconds. Place a cover slide over drop and observe hyphae through microscope.)
- Consider diabetes mellitus and other conditions e.g. HIV infection, pernicious anaemia and drugs i.e. broad spectrum antibiotics, corticosteroids and immunosuppressive drugs. All these factors can upset the balance between a healthy host and an organism that, under normal circumstances, produces no disease.
- Genital candidiasis in men is usually sexually acquired.

Non-drug treatment

- Personal hygiene, wash with water (avoid regular use of soap on mucus membranes)
- Counsel on compliance and risk reduction
- Promote abstinence from penetrative sex while on treatment
- Provide condoms and promote consistent use
- Investigate blood for RPR, VDRL to test for syphilis
- Notify partner and treat

Drug treatment

- Nystatin 100 000 IU/gram ointment, twice a day for 5 days (Clotrimazole cream twice a day can also be used)
- If malodorous, add:
  - Amoxycillin 500mg 8 hourly for 5 days **plus**
  - Metronidazole 400mg twice a day for 5 days
- Request patient to return after 7 days.

8. Protocol 7: Painful scrotal swelling

Organisms presenting with these features:

- Gonorrhoea – *Neisseria gonorrhoea*
- Nongonococcal urethritis – *Chlamydia trachomatis* serotypes D-K
  Ureaplasma urealyticum

Symptoms and signs

- Patients usually complain of swollen and painful testis
- Urethral discharge may be present in most STI cases
- Exclude other causes of this condition e.g. mumps, TB
- Exclude sudden onset of testicular pain, which may be caused by torsion of testis as this may lead to gangrene within 6-12 hours. Immediate referral for surgery is needed.

Non-drug treatment

- Counsel on compliance and safer sex
- Provide condoms and promote consistent use
- Take blood for RPR/VDRL to test for syphilis
- Notify partner and treat

Drug treatment

- Ciprofloxacin, 500mg PO stat **plus**
- Doxycycline 100mg twice a day PO for 7 days
- Request patient to return after 7 days

In case of drug allergy or other contra-indications:

- Spectinomycin 2 g IMI or ceftriaxone 125mg IMI stat (in stead of ciprofloxacin)
- Erythromycin 500mg 4 times a day PO for 7 days (in stead of doxycycline)

Referral: **IMMEDIATE with suspected torsion of testis**

Also refer:

- patient that is not sexually active
- sudden onset of pain
- history of trauma
- history of other serious non-STI disease

9. Protocol 8: Interpretation of syphilis serology – RPR/VDRL

Serological tests for Syphilis:

Serological tests for syphilis may be divided into 2 groups:

- Non-treponamal or reagin tests e.g. WR, RPR, VDRL
- Treponemal tests e.g. FTA-ABS, TPHA

The non-treponemal tests measure reagin in the sera of patients. They are not absolutely specific for syphilis and false positive reactions may occur. Low positive titres in non-treponemal tests (<1:8) should therefore be confirmed with a specific treponemal test such as the FTA-ABS test (a fluorescent antibody test) or the TPHA test (a haemagglutination test).

Non-treponemal tests are used as initial screening tests and may also be used to assess the efficacy of therapy. After successful treatment of early syphilis the titre of non-treponemal tests should fall and eventually become negative. However, successful treatment of later stages of the disease may result in persistence of positive antibody titres.

After treatment, adults should return for repeat serological investigations after 3 months. Cases of congenital disease should be monitored carefully over a period of

12 months following therapy. Treatment should be repeated in all cases where a significant rise in antibody titre is detected.

RPR/VDRL negative result

- record the date and result on patient's record
- ask the patient to return for a repeat test in 3 months (These tests become positive up to 6 weeks after infection)

When the patient returns after 3 months:

- if the repeat test result is negative after 3 months
  - counsel and send patient home
- if the repeat test result is positive after 3 months
  - treat as early syphilis
  - record result, titre and date on patient's record

RPR/VDRL positive result

Check if titre was recorded in the past 2 years

- if current titre is lower than or the same as the previous titre, it means patient was already successfully treated
  - counsel and send patient home
  - record date and titre on patient's record

- if current titre is higher than previous titre:
  - treat for early syphilis
  - record date and titre on patient's record

  plus

  repeat RPR/VDRL in 3 months

- if no previous titre was recorded:
  - treat for late syphilis
  - record date and titre on patient's record

  plus

  repeat RPR/VDRL in 3 months

Follow-up test of VDRL positive result in 3 months

- If current titre is lower than or the same as previous titre:
  - patient was successfully treated, counsel and send patient home
    plus
  - record date and titre on patient's record

- If current titre is **higher** than previous titre: (re-infection)
  - retreat for early syphilis
  - record date and titre on patient's record

    plus
  - repeat RPR/VDRL in 3 months

Early Syphilis treatment

Check if treated at initial visit – if not:

Benzathine benzyl penicillin 2,4 MU IMI stat

In penicillin-allergic patients

Doxycycline 100mg twice a day PO for 14 days

If penicillin allergy and pregnant:

Erythromycin 500mg 4 times a day PO for 14 days

Late Syphilis treatment

Check if treatment was commenced at initial visit

Benzathine benzyl penicillin 2,4 MU IMI once a week for 3 weeks

In penicillin-allergic patients

Doxycycline 100mg twice a day PO for 4 weeks

If penicillin allergy and pregnant

Erythromycin 500mg 4 times a day PO for 4 weeks

10. THE NATURAL COURSE OF UNTREATED SYPHILIS

Primary Syphilis

The incubation period averages 21 days but ranges from 9-90 days. The primary chancre is usually associated with moderately enlarged inguinal lymph nodes, which tend to be bilateral, discrete and non-tender. If left untreated, the ulcer will resolve spontaneously in 3-8 weeks, usually without leaving a scar.

Secondary Syphilis

Not all primary syphilis evolves into secondary syphilis. The interval between the appearance of the primary chancre and the onset of secondary manifestations varies from 6-8 weeks. The onset of secondary syphilis is often accompanied by constitutional symptoms such as fever, headache, malaise and a rash and/or generalised lymphadenopathy. Secondary syphilis is characterized by a bacteremia and all bodily fluids can transmit the disease.

Secondary syphilis is the great immitator. Syphilitic skin rashes may simulate a variety of dermatologic conditions. The rash may be macular, papular-squamous and is usually symmetrically distributed and non-irritant. The granulomatous lesions in warm, moist areas such as vulva and peri-anal region become enlarged and are called condylomata lata.

The lymphadenopathy of secondary syphilis is characterised by discrete, rubbery, non-painful lymph nodes.

In some cases mucosal lesions, so called, “snail-track-ulcers” may be seen.

Latent Syphilis

If secondary syphilis remains untreated all visible manifestations of the disease will resolve gradually. A diagnosis of latent syphilis is based on the results of serological tests and the absence of CNS signs and symptoms.

Tertiary Syphilis

This is the destructive stage of the disease. In untreated or inadequately treated patients, the signs and symptoms of tertiary syphilis usually occur many years after the initial infection. Any organ of the body may be involved. At this stage the disease is non-infective.

The late manifestations are:

- Benign gummatous syphilis (cutaneous, mucosal and bony gummas)
- Cardiovascular syphilis – preferentially involves the large blood vessels, like the origin of the aorta, causing aortic regurgitation
- Neurosyphilis

It is possible that these features may co-exist.

In short: Primary syphilis: chancre and local lymphadenopathy- painless
Secondary syphilis: any skin rash ± general lymphadenopathy
Tertiary syphilis: chancre anywhere, especially brain/ large vessels

Treatment of Tertiary Syphilis:

All cases of tertiary syphilis where neurosyphilis has been excluded: As for late syphilis.

Neurosyphilis

Aqueous crystalline penicillin G, 12-24 MU IV per day for 10 days, followed by benzathine penicillin G, 2,4 MU IM weekly for 3 weeks
or
Aqueous procaine penicillin G, 2,4 MU IM daily plus probenecid 500mg 4 times per day, both for 10 days, followed by benzathine penicillin G, 2,4 MU IM weekly for 3 weeks.
(Probenecid delays penicillin excretion, which virtually doubles blood levels)

The Jarisch-Herxheimer reaction sometimes occurs within 12-24 hours of therapy. It is caused by the release of large quantities of antigenic material. Coverage with corticosteroids, 60 mg once a day, orally for 3 days, may be used to prevent Jarisch-Herxheimer reaction.

11. Protocol 9: The 7 day return visit

This visit refers to the return visit and applies to all STIs.

If cured

- Check and record RPR/VDRL result and date and follow RPR/VDRL protocol 8
- Complete treatment
- Counsel on risk reduction
- Provide condoms and promote consistent use

If not cured

- Assess treatment compliance and possibility of re-infection
- **If there is poor compliance or re-infection:** repeat treatment and request follow-up after 7 days
- **If good compliance and no chance of re-infection:** check RPR/VDRL result and follow RPR/VDRL protocol 8.

Plus
Refer for more specialized management.

This visit refers to the return visit and applies to all STIs.

12. Neonatal Conjunctivitis – Gonococcal Ophtalmia Neonatorum

Symptoms and signs

- Purulent discharge and/or swollen eyelids

Treatment of neonate

- If practical it may be better to hospitalise and isolate the neonate for 24 hours after initiation of treatment
- Eyes should be irrigated immediately with normal saline and then hourly to prevent build-up of discharge
- Ceftriaxone 50mg/kg IMI stat (maximum 125mg)
- Erythromycin syrup 50mg/kg/day in 4 divided doses for 7 days

Treatment of mother (safe during breast feeding)

- Ceftriaxone 125mg IMI stat
- Erythromycin 500mg 4 times a day PO for 7 days

Treatment of father/partner

- Ciprofloxacin 500mg PO stat
- Doxycycline 100mg PO twice a day for 7 days

In case of drug allergy or other contra-indication:

- Spectinomycin 2 g IMI stat (or ceftriaxone 125mg IMI) (in stead of ciprofloxacin)
- Erythromycin 500mg 4 times a day PO for 7 days (in stead of doxycycline)

Mother and father/partner

- Look for other STIs and treat appropriately
- Counsel on compliance and risk reduction
- Provide condoms and promote consistent use
- Take blood for RPR/VDRL
- Request to return after 7 days

13. Other STIs

The following STIs, do not use the syndrome approach, but treat specifically:

- **Genital warts**
- Genital molluscum contagiosum
- **Genital scabies**
- **Pubic lice**

Genital warts

Refer all patients with genital warts to STI clinics.

Treatment

Patient-applied therapy for external genital and peri-anal warts:

- Podophyllotoxin 5mg/ml solution: (inexpensive)
  - Apply to clean dry lesions with a cotton swab twice a day for 3 days
  - It can be repeated after 7 days if necessary

  or
- Imiquimod 5% cream: (very expensive)
  - Apply to warts with finger at bedtime, 3 times a week and leave overnight. Continue for 16 weeks.
  - The treatment area should be washed the next morning after each application.

Options for health provider-administered therapy for external genital and peri-anal warts include:

- Cryotherapy with liquid nitrogen or cryoprobe, repeated every 1-2 weeks
- Tincture of podophyllin (10-25%) is applied to warts (protect surrounding normal tissue with petroleum jelly). Leave for 1-4 hours, and then wash off thoroughly. Treatment should be repeated at weekly intervals. If regression is not apparent after 4 such applications, alternative treatment should be used.
- Electrocautery
- Surgical excision

Vaginal, cervical and ano-rectal warts:

- Cryotherapy with liquid nitrogen
  any of above-mentioned treatments

Urethral/meatal warts:

- Cryotherapy with liquid nitrogen

Genital Molluscum Contagiosum

An infectious disease that is frequently transmitted by sexual contact. It is caused by a poxvirus.

The genital lesions closely resemble molluscum contagiosum found elsewhere on skin.

Treatment
Individual lesions should be treated separately.

- Tincture of Iodine BP, applied to the central core of each lesion by a prick with an orange stick
- Cryotherapy or electrocautory are the treatments of choice

Genital Scabies

It is caused by the parasitic mite *Sarcoptes scabiei*. Sexual transmission is common, but is more frequently transmitted non-sexually.

Symptoms and signs

- Intense itching, more severe at night

- Presents as small burrows especially between fingers, toes, elbows and skin folds
- In babies the whole body is usually affected
- Secondary infection due to scratching with dirty nails

Non-drug treatment

- All close contacts must be treated at the same time
- Cut finger nails and keep them clean
- Wash all linen and underclothes in hot water
- Expose all bedding to direct sunlight
- Thoroughly wash whole body with mild soap and water and dry well with clean towel
- Put on clean, washed clothes **after** drug treatment

Drug-treatment

- Adults and children over 6 years: Benzyl benzoate 25% emulsion (Ascabiol®), applied to the whole body from neck to toes on two consecutive days. Leave on overnight and wash off the next day.
- Children under 6 years: Monosulfiram 5% medicated soap (Tetmosol®), used daily on whole body. Allow lather to dry and remain on the body until the next wash.
- Treatment may be repeated after 1 week.
- Antibiotic treatment for secondary infection.

Pubic Lice

Pubic lice, or crab lice manifestation (*Phthirus pubis*) is usually acquired by adults during sexual contact. The diagnosis is usually made by close visual examination of the pubis or other infected areas since the lice and nits are just visible to the naked eye.

Drug treatment

- Benzyl benzoate 25% (Ascabiol®), applied and left overnight. Rinse in the morning.
  Repeat once weekly for 3 weeks in order to break life cycle of lice
  or
- Permethrin 1% cream (Lyclear®), massaged into affected hairy areas. Rub into lather with a little water and rinse after 4 minutes.

Dead lice and nits can then be removed with a fine-toothed comb. The procedure should be repeated after 7 days.

14. THE MANAGEMENT OF THE PATIENT WITH HUMAN PAPILLOMA VIRUS ON PAPSMEAR

Human papilloma virus (HPV), predominantly serotypes 16, 18, 31 and 33 is a carcinogen responsible for cervical carcinoma. HIV- positive women infected with HPV have an even greater risk of cervical cancer.

- A patient with HPV infection on Papsmear, should have a repeat smear after 3-6 months
  - If the next smear is normal, then annual smears are indicated

- If the smears remain positive for HPV on more than 3 consecutive smears, the patient should be referred for colposcopy and biopsy
- A patient with a HPV positive Papsmear, together with a CIN lesion should be referred for colposcopy, biopsy and treatment. (CIN = Cervical intraepithelial neoplasia)

15. FURTHER READING

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