ABC of Sexually Transmitted Diseases

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**GENITAL WARTS AND
MOLLUSCUM CONTAGIOSUM**

Even though genital warts (condyloma acuminatum) are commonly seen in departments of genitourinary medicine (about 33 000 cases a year, 6% of all cases seen) many more cases are diagnosed and treated by general practitioners, surgeons, gynaecologists, and dermatologists. Not only are warts common but they are difficult and time consuming to treat.

They are caused by a small DNA virus, a papillomavirus belonging to the papovavirus group, which cannot be cultured. Genital warts differ from skin warts histologically and antigenically. Genital warts are nearly always transmitted by sexual contact; autoinoculation from hand to genitals is unusual. Infants and young children may develop laryngeal papillomas due to infection from maternal genital warts at delivery. The infectivity of sexually acquired warts is about 60%; the incubation period is long, varying from two weeks to eight months (mean three months).

Clinical features

Genital warts are often asymptomatic and painless. Patients may give a history of suddenly noticing them or noticing them only once their sexual contact has acquired them. Women are more likely to be unaware of warts because it is harder for them to examine their genitalia. Warts flourish in warm, moist conditions, particularly if a discharge or other infections are present.

Warts may be solitary but are usually multiple by the time the patient attends for consultation. In men they may be found on the glans and shaft of the penis, prepuce, fraenum and coronal sulcus, urethral meatus, scrotum, anus, and rectum. Even though anal warts usually occur after anal intercourse they may occur without this. In women the commonest site of infection is the introitus and vulva, but warts may also affect the vagina and (as flat warts) the cervix. Other infected sites may be the perineum, anus, and rectum.

Warts—penile, intrameatal, vulval, and perianal.

Diagnosis

Differential diagnosis

Genital warts

Condylomata lata
Molluscum contagiosum
Sebaceous cysts
Tumours

Genital warts are one of the few sexually transmitted conditions that are diagnosed solely from their clinical features. Diagnosis is not usually difficult but the differential diagnosis of condylomata lata of secondary syphilis, molluscum contagiosum, sebaceous cysts, and benign and malignant tumours should be remembered. Warts may often herald other sexually transmitted diseases or infections. For example, one third of women attending departments of genitourinary medicine with genital warts have one or more additional diseases diagnosed concurrently. All women with genital warts, even in the absence of any other symptoms, must have a full set of microbiological tests performed to exclude, at least, infection with *Candida albicans*, *Trichomonas vaginalis*, *Neisseria gonorrhoeae*, and also, if possible, *Gardnerella vaginalis* and *Chlamydia trachomatis*. Heterosexual and homosexual men with penile warts should have urethral tests for gonorrhoea and non-gonococcal urethritis, even if they are asymptomatic. Likewise, homosexuals with anal warts should have proctoscopy performed to exclude the presence of additional warts within the rectum as well as other rectal diseases such as gonorrhoea. Finally, serological tests for syphilis should be carried out in both men and women. Contact tracing of regular sexual partners must be undertaken as well as full microbiological investigations.

Complications

Massive warts in pregnancy.

Complications of genital warts are rare. Occasionally they may increase alarmingly in size during pregnancy and appear as large cauliflower like masses. In men similar giant benign but destructive warts (Buschke-Lowenstein tumour) may occur on the penis or existing small ones may rapidly become enlarged. Malignant transformation of vulval, cervical, penile, and anal warts has been reported. As yet no case-control studies confirming the association between human papillomavirus infection and carcinoma of the cervix have been undertaken.

Flat warts on the cervix are not usually apparent to the naked eye. Their possible association with cervical intraepithelial neoplasia means that in ideal circumstances all regular female consorts of men with warts, and all women with vulval warts, should undergo colposcopy to exclude cervical warts. The present lack of proof that malignant change does occur means that a more pragmatic approach is to encourage all women attending clinics to have cytology performed every year.

Treatment

Apply podophyllin 10% or 25%
Twice or three times a week
WASH OFF after 3-4 hours

Overtreatment may cause peripheral neuropathy, coma, and hypokalaemia

Initial treatment is usually with locally applied caustic agents. It is usual to start with podophyllin—a cytotoxic agent—which should be applied to the lesions in strengths of 10% or 25% in industrial spirit and repeated at least twice or even three times a week. Being an irritating substance it can cause bad burns. Patients must therefore be told to wash it off three to four hours after application. Patients may often want to apply podophyllin themselves but this is undesirable, since they may be over zealous in their justifiable desire to get rid of their warts and apply the substance too often, without washing it off, on the basis that “if it hurts it must be doing me good.” Severe systemic effects of peripheral neuropathy, coma, and hypokalaemia can follow application of large quantities. If podophyllin applied regularly is ineffective after two to three weeks the more caustic agent glacial trichloroacetic acid 50-100% may be used, again with great caution. This agent is more often used for hyperkeratotic warts but even so these warts are often resistant and electrocautery or cryotherapy will be needed. Cautery or surgical excision should be considered at an earlier stage if the warts are particularly large or numerous. The clinical course of warts, particularly their ability to regress spontaneously and reappear, has made other treatment regimens—such as vaccines and fluorouracil—difficult to assess.

Approaches to the treatment of genital warts

Site or type of warts	Start	1 week	2 weeks	3 weeks	4 weeks
Few, small, and soft	10-25% Podophyllin	→	→	Trichloroacetic acid	→ Cryotherapy electrocautery
Extensive, multiple, vegetations	10-25% Podophyllin or Trichloroacetic acid	→	Surgical excision		
Hyperkeratotic	Trichloroacetic acid	→	Electrocautery diathermy		
Intrameatal	10% Podophyllin	→	Electrocautery cryotherapy		
Solitary, large, discrete	Electrocautery diathermy, excision				
Cervical	Colposcopy, cryotherapy, laser				
Pregnancy	None - unless discrete small vaginal or vulval, then use trichloroacetic acid / cryotherapy - ? electrocautery				

Treatment of warts outside departments of genitourinary medicine

- Sexual and genitourinary history
- Exclude a concurrent sexually transmitted disease
- Trace regular sexual contacts

During pregnancy it is best to offer no treatment. Podophyllin is contraindicated in view of its toxicity and possible mutagenic action, and the warts usually diminish in size once pregnancy has ended. Withholding treatment in this way has to be weighed against the possible development of laryngeal papilloma in the neonate. This is rare and does not justify the use of a cytotoxic drug during pregnancy. Trichloroacetic acid may be used if the lesions are discrete and small and occur on the vaginal wall or vulva. Alternatively, cryotherapy or electrocautery may be offered. Occasionally caesarean section is necessary if the warts are likely to obstruct labour.

Doctors treating genital warts outside sexually transmitted disease clinics should remember, firstly, that an accurate and detailed sexual and genitourinary history is needed; secondly, that concurrent sexually acquired conditions should be excluded; and, thirdly, that contact tracing must be carried out.

Molluscum contagiosum

Molluscum contagiosum may be transmitted sexually but this is not the only route. It is a contagious viral condition which may be spread by close bodily contact, clothing, or towels. Transmission (outbreaks) is possible in swimming pools, sauna baths, schools, after massage, and between siblings. The agent causing molluscum contagiosum is one of the pox viruses and has a variable incubation period of two to twelve weeks. Only 1300 cases a year are diagnosed in clinics; far more cases are probably seen by general practitioners and dermatologists.

Clinical features—The lesions of molluscum contagiosum are characteristic. The pearly white umbilicated papules appear in the genital area (penis, scrotum, vulva, perineum, abdomen, and thighs), but if transmission is non-sexual they may also be found in any part of the body but particularly on the arms, face, eyelids, and scalp. The lesions are usually small (2-5 mm in diameter).

Diagnosis is usually based on the clinical appearance since the virus cannot be grown successfully. Material expressed from the centre of lesions shows viral inclusions on Giemsa stain or on electron microscopy. Since the condition may be sexually transmitted other infections similarly spread should be excluded if the patient's history or the site of the lesions (proximity to genital area) suggests that this could be the route of infection.

Treatment is by applying phenol on the end of a sharpened stick to the central umbilicated core of the lesions. This may need to be repeated several times. Alternatively electrocautery or cryotherapy may be used.

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