Summary

Genital warts (condyloma acuminatum , venereal warts) are common highly contagious benign epithelial lesions occurring on the genitals, perianal area, and inguinal folds, and are caused by human papillomavirus (HPV) .

Like many viruses, HPV is a fascinating organism. It is extremely difficult to grow in vitro; but once an individual becomes infected with HPV, it can be difficult or even impossible to eradicate. HPV is associated with mild to moderate disease that even in the absence of therapy may spontaneously regress. On the other hand, some HPV infections progress to cancer, which can be fatal if treatment is delayed .

In the United States , Genital HPV is the most common sexually transmitted infection, with an estimated 80% lifetime risk of acquiring HPV at least once .

It is estimated that 500,000–1 million new cases of genital warts occur each year. This infection prompts at least 600,000 outpatient visits each year.

In Egypt , the prevalence of HPV among women with normal cytology was estimated to be 6.6 % .

In a study on the prevalence of HPV infection among a highrisk group of Egyptian women, PCR in-situ hybridization of cervical biopsies revealed an approximately 70% infection rate, but no data are available on the infection rate in the general population .

There is now overwhelming epidemiological evidence for the role of sexual activity in the transmission of anogenital HPV .

HPV infections can be transmitted not only by peno-vaginal intercourse, but also by other sexual practices, e.g. oral sex, peno-anal intercourse and digital–vaginal sex .

Hand carriage of genital HPV types in patients with genital warts was identified and HPV transmission by digital–genital contact is possible .

The greatest risk factors for infection are gender, age, and sexual activity, with the highest rates being consistently found in sexually active women less than 25 years of age .

After initial infection, virus enters into a latent incubation period of 1–8 months, during which time there are no visible manifestations of the infection. The active growth phase starts when the first lesion develops. It is not known what induces the transition from latent to infective stage, but many host, viral, and environmental factors are involved .

Condyloma acuminatum is the most common and classical clinical presentation of genital HPV infection (excluding subclinical or latent infection), and 70–100% of exophytic genital warts are usually associated with HPV 6 or HPV 11 infections, with a small risk of malignant transformation .

At the external genital sites, six different HPV lesions can be encountered: 1.condyloma acuminatum, 2. giant condyloma acuminatum or Buschke-Lwenstein tumor, 3. flat condyloma, 4. inverted or endophytic condyloma, 5. papulosis and pigmented papulosis lesions, and 6. Bowenoid papulosis .

Accurate diagnosis is an essential first step in treatment of EGWs. Understanding the morphological presentation of these lesions is essential to accurate diagnosis of EGWs and their differentiation from other lesions that mimic them.

According to the CDC treatment guidelines, the acetowhite test can be useful for identifying flat genital warts .

Serological testing for HPV antibodies has relatively low sensitivity. Detection of antibody response to viral capsid proteins usually produces conflicting results and these tests are currently used only in research settings. Antibody responses to HPV may persist for several years or resolve with the clearance of the infection. Therefore, there is no current clinical indication for the use of HPV serology .

HPV infection in both genders can only be accurately confirmed using molecular detection methods for the presence of HPV DNA in the collected specimens .

Primary prevention approaches for GWs have been limited in the past to abstinence, mutual long-term fidelity, or use of condoms. Until recently, the first 2 options were believed to be the only effective approaches because condom use has now been shown to reduce the risk of acquiring HPV by 70% only in a population of young women .

Evidence that male circumcision is associated with decreased penile HPV infection is rapidly accumulating .

The most effective tool for primary prevention is undoubtedly vaccination with an quadrivalent HPV vaccine containing HPV types 6, 11, 16, and18. The potential for prevention of over 90% of all genital

HPV lesions in young girls and women not previously exposed will be the most immediate vaccination benefit , while prevention of 70% of cervical cancers is the most dramatic and lifesaving benefit of this vaccine .

There are many current treatments for genital warts; however, none are successful in all three goals of therapy: complete eradication of warts, maintaining clearance and eliminating the virus . Recurrences are common, and there is no single treatment that is superior to others .

Of these, the Centers for Disease Control and Prevention guidelines recommend BCA *(bichloroacetic acid*), TCA*(trichloroacetic acid*), cryotherapy , and podophyllin resin as first-line provider-applied therapies, and podofilox and imiquimod as first-line patient-applied therapies . When deciding whether to use a patient- or provider-applied treatment regimen, it is important to consider several patient factors including patient preferences, comfort, cost, and length of time to clearance of warts .

The primary goal of treatment is to remove symptomatic visible lesions. Although there is no current evidence that treatment of genital warts has a favorable impact on the incidence of cervical and genital cancer, treatment of visible lesions may reduce HPV DNA tissue persistence and infectivity.

An important part of all therapies is the patient education and counseling. HPV infection raises all the relevant questions generally associated with STIs, but adds concerns about potential long-term risks for cancer.