

Pharmacotherapy in HPV

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PHARM D.

Genital wart

- ▶ **There are two broad categories of medical therapy:**
- ▶ **1.** Those that directly destroy the wart tissue (cyto-destructive therapies)
- ▶ Such as podophyllotoxin and TCA
- ▶ **2.** Those that work through the patient's immune system to clear the wart (immune-mediated therapies).
- ▶ **All medical therapies are most useful for patients with limited disease (eg, ≤ 5 small warts)**

Vaccination

- ▶ **Cervical cancer** is the fourth most common type of cancer in women, and more than 95% of cervical cancer is caused by sexually transmitted HPV
- ▶ **WHO 2023 guideline**
- ▶ **A one or two-dose** schedule for girls aged 9-14 years
- ▶ **A one or two-dose** schedule for girls and women aged 15-20 years
- ▶ **Two doses with a 6-month** interval for women older than 21 years





- ▶ **Podophyllotoxin (podofilox)** – Podophyllotoxin (podofilox) contains the biologically active compound from podophyllum resin.
- ▶ Using a cotton swab, the patient applies a 0.5 percent gel or solution to external genital warts **twice daily for three consecutive days**
- ▶ **No more than 0.5 mL** of podofilox should be applied in one day. She then withholds treatment for four days, and repeats this cycle weekly up to four times. Large areas (10 cm² or more) should not be treated in a single application because pain is likely when the area becomes necrotic.

- ▶ **Trichloroacetic acid and bichloroacetic acid** : Both TCA and BCA are caustic acids that destroy the wart tissue via chemical coagulation of tissue proteins.
- ▶ TCA is used most commonly, and must be applied by a health care provider. It can be used on the vulva and vagina, and during pregnancy.



Imiquimod



- ▶ **Imiquimod is a toll-like receptor 7 agonist**, which acts as a positive immune response modifier, and stimulates local cytokine induction. Topical treatment of warts increases local production of interferon and reduces human papillomavirus (HPV) virus load
- ▶ for treatment of external genital warts, but the manufacturers recommend against vaginal administration.
- ▶ Aldara is applied three days per week (eg, Monday-Wednesday-Friday) for up to 16 weeks
- ▶ The patient applies imiquimod cream directly to the clean dry warty tissue at bedtime, rubbing it in until the cream is no longer visible this area is washed with mild soap and water 6 to 10 hours later.
- ▶ **Sexual contact should be avoided while the cream is on the skin. The cream can weaken condoms and diaphragms.**

Cryoablation



- ▶ **Cryoablation** — Cryoablation with either liquid nitrogen or nitrous oxide destroys wart tissue via cell lysis. Although it is an office procedure, cryoablation causes pain during application and variable localized inflammation afterward. Providing local anesthesia for the procedure is especially important when the area undergoing cryotherapy is extensive.
- ▶ Liquid nitrogen is most commonly used, and is applied directly to the vulvar or vaginal lesion with a cotton swab or a fine spray.
- ▶ The treatment is applied for 30 to 60 seconds, until an **ice ball forms** and encompasses the lesion and 1 to 2 mm surrounding area



Laser ablation

- ▶ **Laser ablation** — Lasers produce light energy, which is absorbed by water within warty tissues, leading to thermal damage and resultant ablation. Carbon dioxide laser is the most commonly utilized type of laser for treatment of vulvar warts, but requires specific training and specialized equipment