The Egyptian Journal of Hospital Medicine (January 2023) Vol. 90 (2), Page 2208-2210

Destructive, Physical, and Surgical Treatment Lines of Warts: Review Article

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ABSTRACT

Background: Despite the fact that warts, the microscopic skin protuberances caused by the human papillomavirus, do not pose any serious health risks, they can be unattractive, unpleasant, uncomfortable, and even contagious. It's possible they'll regress on their own, but it could take a long time. As a result, many who have them look for treatments both professionally and commercially. As of yet, there is no one-and-done solution for curing warts with minimal adverse effects. Pain, burning, blisters, local irritation, bleeding, infection, ulcers, and scarring are only some of the potential side effects of destructive therapy. **Objective:** Review of the literature on therapy lines for treatment of warts.

Methods: We looked for data on therapy and warts treatment in medical journals and databases like PubMed, Google Scholar, and Science Direct. However, only the most recent or extensive study was taken into account between January 2000 and May 2021. References from related works were also evaluated by the writers. There are not enough resources to translate documents into languages other than English, hence those documents have been ignored. It was generally agreed that documents such as unpublished manuscripts, oral presentations, conference abstracts, and dissertations did not qualify as legitimate scientific study.

Conclusion: Warts can be treated in a number of ways, the most common being chemical cautery laser ablation, cryotherapy, surgical excision, electrocautery, surgical excision, immunotherapy, which involves stimulating the immune system to attack the virus and suppress its activity.

Keywords: Warts, Human papillomavirus, Surgical Treatment.

INTRODUCTION

Despite the fact that warts, the microscopic skin protuberances caused by the human papillomavirus, do not pose any serious health risks, they can be unattractive, unpleasant, uncomfortable, and even contagious. It's possible they'll regress on their own, but it could take a long time. This is why some who have warts look for treatments that may be bought without a doctor's visit [(1)].

A common skin symptom of human papillomavirus (HPV) infection is the development of warts. Depending on the epithelial surface they infect and the individual HPV strain that creates them, many types of warts may occur. Common warts, plantar warts, flat warts, and genital warts are all types of warts caused by human papillomavirus infection (Condyloma acuminatum) [(2)].

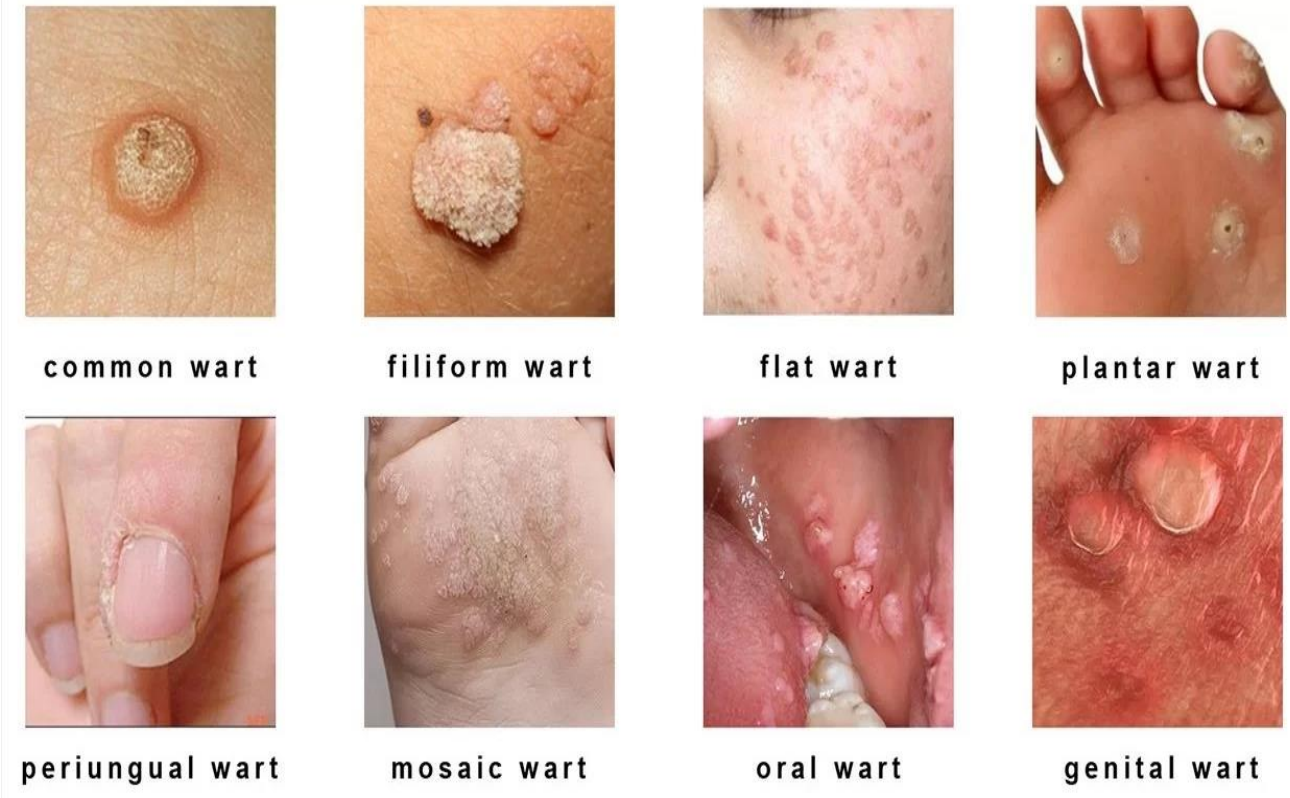

Figure (1): Different wart types [(1)].

Received: 18/09/2022
Accepted: 20/11/2022

Warts have no known low-risk single treatment. Pain, bleeding, local irritation infection, burning, ulcers, and scarring are just some of the side effects that destructive therapy can cause [3].

Different factors influence the therapy decision. Patients frequently have various skin types, HPV quantities, sizes, locations, and lesion durations, immunological statuses, other coexisting internal or external disorders, varying pain levels, and varying preferences [4].

Treatment of Warts:

Warts can be treated in a number of ways, the most common being chemical cautery laser ablation, cryotherapy, surgical excision, electrocautery, surgical excision, immunotherapy, which involves stimulating the immune system to attack the virus and suppress its activity [5].

1. Destructive Treatments:

Common treatments for viral warts include preparations containing salicylic acid (SA). Despite the fact that excessive exfoliating might be irritating to the skin, SA nevertheless recommends it. Before applying occlusive tape and salicylic acid, paring is performed. Commercially available formulations typically contain 10–26% SA in either a collodion or polyacrylic base. Many formulations also feature lactic acid. As a first-line treatment, it is highly regarded by many individuals because it is both inexpensive and causes less discomfort [6].

2. Trichloroacetic acid and monochloroacetic acids:

Trichloroacetic acid is corrosive and destroys the skin's outermost layers (the epidermis and the upper papillary dermis) by coagulating proteins therein. After that, the skin's dermis and epidermis are revitalised by the production of new collagen and the regeneration of elastic tissue. The formation of white frost following a topical application of trichloroacetic acid requires sufficient drying time. Negative results can include discomfort or pain upon application, dryness, cracking, and sensitivity to touch [7].

3. Cantharidin:

Cantharidin causes acantholysis and intraepidermal blistering in the skin after being exposed to it for 24 to 48 hours. Exfoliation of virus-infected tissue and disruption of desmosomal adhesion are two of the mechanisms of action. Treatments for plantar warts include cantharidin, salicylic acid, and podophyllotoxin [8].

4. Phenol:

When the caustic phenol (carbolic acid) reaches the deeper layers of tissue, it causes a white crust to form on the surface. When it comes to reassembling the transcription complexes responsible for silencing the HPV gene, polyphenols can be a useful tool. Possible side effects consist of heat injury, soreness, redness, loss of pigmentation, scarring, and infection [9].

5. Glycolic Acid:

The cosmetics industry makes use of abrasive compounds like glycolic acid and hydroxy acids. Recent research involving salicylic acid included 20 people aged 7 to 16 who had chronic flat warts on their faces. SA Together, 2 percent glycolic acid and After 8 weeks, 15% of patients claimed a complete recovery [10].

6. Pyruvic Acid:

The top layers of skin can be easily shed with the help of the keratolytic chemical pyruvic acid. Its ethanol content is 70% consumed. The usage of salicylic acid should be approached with extreme caution in order to preserve youthful skin [7].

7. Formic acid:

Due to its drying effects, formic acid has been linked to tissue breakdown. One of the most common side effects is mild discomfort. Prolonged exposure to or application of a chemical while ventilation is restricted can cause severe damage [11].

8. Retinoids:

Since retinoids control epidermal growth and differentiation, they also trigger desquamation and peeling. Retinoids can be utilised to treat skin disorders since they are potent immunomodulators. Warts can be treated topically (applied to the afflicted area) and systemically (0.5-1 mg/kg/d for up to 3 months) with acitretin and isotretinoin, respectively. In addition to other types of skin lesions (tretinoin or tazarotene at a dosage of 0.05 percent applied once daily). The most common side effects of systemic retinoid therapy include dry skin and mucosa, cheilitis, and temporary elevations in serum aminotransferase and triglyceride levels [12].

Physical Methods:

1. Cryotherapy:

Cryotherapy, which employs the use of liquid nitrogen, has become one of the most used procedures in modern medicine. In randomised therapeutic trials, the average cure rate for warts is 49% [7].

Specific warts are the focus of this treatment. Preparing for cryotherapy for plantar warts is key to its success. A liquid nitrogen freeze is applied to the wart for 5-30 seconds, or until a frozen halo forms around it. A total of six sessions were administered, one every two to three weeks. The most commonly reported adverse effects included bleeding, scarring, pain, burning, and erythema [13].

Cryotherapy can be used to load dendritic cells, creating a "abscopal effect" and an immune response all over the body, making it a "in vivo dendritic cell vaccine" [13].

2. Surgical excision:

Because of the risk of scarring, surgical excision is not the optimal treatment. Those who suffer from both physical and psychological discomfort due to an ingle plantar wart may benefit from local anaesthetic treatments [(11)].

3. Lasers:

Some doctors say that laser therapy can remove even the most persistent warts. However, this approach should only be utilised as a last resort because of the exorbitant expense. CO2 lasers, pulsed dye lasers (PDLs), and Er: YAG lasers are commonly used to remove warts. In order to remove warts, the dye laser is preferable since it can coagulate blood vessels and induce ischemia within the lesion, resulting in a more targeted injury [(14)].

Removal of vascular lesions can be accomplished without transfusions by utilising a laser to vaporise and coagulate the affected area. Reduced wart size makes the skin more receptive to topical medications like imiquimod, 5-FU creams, or cidofovir cream [(15)].

4. Photodynamic therapy (PDT):

Tissue destruction occurs due to PDT's induction of an inflammatory response and subsequent oxidative stress. Recommended treatment includes using a 20% 5-aminolevulinic acid cream and then covering the affected area with an occlusive polyurethane bandage for four hours. Afterwards, the wart is exposed for 20 minutes to a light source that emits between 590 and 700 nanometers of light per square centimetre. Typical adverse reactions include of soreness, redness, and a stinging or burning sensation [(16)].

CONCLUSION

Warts can be treated in a number of ways, the most common being chemical cautery laser ablation, cryotherapy, surgical excision, electrocautery, surgical excision, immunotherapy, which involves stimulating the immune system to attack the virus and suppress its activity.

Supporting and sponsoring financially: Nil.
Competing interests: Nil.

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