

THERAPEUTIC APPROACHES FOR THE MANAGEMENT OF WARTS A COMPREHENSIVE REVIEW.

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Abstract:

Warts are common epidermal growths caused by human papilloma virus that often cause significant discomfort and embarrassment current treatment options include topical therapies cryotherapy, laser vapourisation and surgical excision many of these options are destructive and may result in scarring, while less aggressive approaches can lead to lesion, recurrence^[3]. Additionally, these local modalities are not practical for patients with a large number of warts systemic approaches such as immunotherapy have demonstrated success in treating multiple lesions by combining a targeted approach with upregulation of the host immune system an extensive literature review was performed to evaluate the various vaccine antigens that have been used intralesionally to treat cutaneous and anogenital warts the specific intralesionally immunotherapies that have been studied include candida albicans measles mumps and rubella etc^[9]

Keywords:

Human papillomavirus, Verruca vulgaris, condyloma acuminatum, papilloma^[22]

Introduction:

Warts are non-cancerous viral growths usually occurring on the hands and feet but which can also affect other locations such as genital or face one or many warts may appear they are distinguished from cancerous tumours as they are caused by the human papilloma virus rather than a cancer growth. Factors that increase the risk include the use of public showers and pools working with meat and a weak immune system the virus is believed to infect the host through the entrance of a skin wound a number of types exist including planar warts filiform warts and genital warts^[8]. Genital warts are often sexually transmitted without treatment most of the warts resolve in months to years several treatments may speed resolution including salicylic acid applied to the skin and cryotherapy in those who are otherwise healthy they do not typically result in significant problems^[6]. Treatment of the genital warts are different from the other types infections with a virus such as HIV from the other types can cause warts. This is prevented through careful handling of sharp objects that would infect the individual through physical contact of skin plus viruses that the practice of safe sex using barrier methods such as condoms transmitted virus that are not sexually transmitted or are not transmitted in the case of the warts can be presented through several behaviors such as wearing shoes outdoors and avoiding unsanitized areas without proper shoes [on clothing such as public restrooms or locker rooms].

Types of warts:

Common warts:

usually found on the finger hands knees or elbows.

Plantar warts:

Develop on the soles of the feet often grow in word scan be painful,especially when standing (or) walking.

Flat warts:

Small.,smooth and flat-topped often appear in groups common on the face forehead hands or legs.

Filliform warts:

Long narrow finger like progesntions common around the mouth nose eyelipids or usually painless but may be both are same due to their location.

Periungal warts :

Occur around or under the finger nails and toenails can effect nail growth and may be painful. **Genetial warts :**

Spread through sexual contact apper on the genital or anal area as small flesh-coloured bumps or cauliflower like growths^[2].

Mechanism of action:

Entry of HPR [pathogenesis of warts] HPR enters the skin through tiny cuts or abrasions Infections of basal cells The virus infects the basal layer of the epidermis Viral replications HPV multiplies inside the inflected keratinocytes Stimulation of cell growth Viral proteins interfere with normal cell cycle regulation by inhibiting tum or suppressor proteins such as ps and rb Formation of warts The rapid buildup of infected skin cells leads to thickening of the epidermis producing a raised rough lesion called warts Spread of virus Mature virus particals are released from the upper layer of the skin and can spread to nearby skin or other people through direct contact or contaminated objects^[7].

Flow chart:

HPV exposure

↓

Entry through micro-abrasions in skin

↓

Infection of basal keratinocytes

↓

Viral DNA replication

↓

E6 & E7,protein inhibits p53 and Rb

↓

Increases keratinocyte proliferation

↓

Hyperkeratosis and acanthosis

↓

Formation of wart(verruca)

Botanical profile and phytochemistry:

ONION:{*Alium cepa*}

Scientific name:- *Alium cepa*.

Family:- *Amaryllidaceae*.

Common names:- *Onion, Common onion*.

Kingdom:- *Plantae*.

Division:- *Angiosperm*.

Order:- *Asparagales*.

Class:- *Monocotyledons*.

Genus:- *Alium*.

Species:- *Alium cepa*.

Phytochemistry of allium cepa:

Onion contains numerous bioactive phytochemical responsible for its medicinal properties.

Organosulphur compounds:

Isallin, methinn, cycloallin, thiosulfinates, cepanes, activity, antimicrobial, antiviral, anti inflammatory, and antioxidant.

Flavonoids:

Quercetin, kaempferol, isorhamnetin Activity: potent antioxidant, anti inflammatory, antiviral. **Phenolic compounds:**

Gallic acid, ferulic acid, caffeic acid, p-coumaric acid, Activity:- Free radical scavenging and anti oxidant effect.

Saponins:

Steroidal saponins activity: Anti inflammatory ^[12].

Activities Relevant to Warts:

1. Anti-Viral Activity
2. Anti-Oxidant Activity

3. Anti-Inflammatory Activity
4. Anti-Microbial Activity
5. Immuno Modulatory Effects

Plant References:

Medicinal Plant	Scientific Name	Family	Reported Activity
Garlic	Allium Sativum	Amaryllidaceae	Antiviral, Immunomodulatory.
Onion	Allium Sepa	Amaryllidaceae	Antioxidant, Anti Inflammatory.
Turmeric	Curcuma Longa	Zingiberaceae	Anti Inflammatory, Antiviral, Antioxidant.
Neem	Azadirachta Indica	Maliaceae	Antiviral, Antimicrobial.
Aloevera	Aloevera	Asphodelaceae	Wound healing, Immuno modulatory.
Mayapple	Podophyllum peltatum	Berberidaceae	Cytotoxic
Fig	Ficus Carica	Moraceae	Antiviral, Keratolytic.

Conventional Treatment Approaches:

Cryotherapy:

it is a common treatment in which liquid nitrogen is applied to the warts to freeze and destroy the infected tissue in the frozen tissue gradually dies and falls off within one to two weeks multiple treatment sessions may be required at intervals of two to three weeks^[17]

Electro Surgery:

Applies high frequency electrical current to cut tissue or burns decitate unwanted growth while simultaneously cauterizing blood vessels to control bleeding it is often combined with curettage to remove the warts completely^[15]

Lasertherapy:

Employs focused high intensity light becomes to vapourise cellular layer of target micro vascular supplies feeding a lesion commonly used in layers include the CO2 laser and pulse dye laser[PDL] it is mainly used for stubborn or recurrent warts^[14].

Discussion:

The present study was undertaken to study the clinical characteristics of the warts and to assess whether any variations have occurred over the years. The maximum incidence was between the 18-30 years of age group with a median of 22 years and mode of 20 years. These observations confirm the observation in literature that warts occur in the young ones. Rao, at a clinical study on warts in 90 patients, found that they belong to the age group of 10-20 years. Kushwaha et al. did an observational study on patients with warts and found a higher incidence in the second and

third decade of life in the patients.^[4] The age range was 3 to 70 years and incidence decreases after they which was also seen in our studies Brethjones and Hutchinson did a study on the patients with warts and found patients were in the age group of 11-23 years^[16]. Brethjones and Hutchinson did a study on the treatment of warts conducted a clinico-epidemiological study of warts and found that incidence of the warts were highest in the ages groups of patients in the each group. However, that HPV colonization of the skin occurs early in the infancy that found cutaneous human papillomavirus persist on the healthy skin for several years they finding support that contact with multiple individuals can predispose to infection even if every individual can predispose to infection even if very individual do not manifest with verrucae. In the present study students comprised majority of patients followed by housewives patients in the other professions included shopkeepers drivers officers workers labours nurses hostel staff and school teachers through the incidence of the latter were lower most of these professions involved in the daily contact^[13]. In our study we elicited the history pertaining to first site of onset of the warts this is a new parameter which has not been assessed in the previous studies. These observations were similar to those text books and the researches and review of the HPV virus infections by Hetotol we also had the patients with pigmented warts that appeared as firm dome shaped papules or plaques with a rough surface having a black, brown pigmentation^[10].

Conclusion:

Our study included that young male students were are sustainable acquiring warts this is because of increase in chance of contact with multiple individuals in schools and colleges 30 percent patients gave similar complaints in the close contact further supporting that the mode of acquiring warts is through repeated contacting the most common site of inoculation was naturally over the fingers and dorsum of the hands as these regions are most prone to contact and susceptible to trauma for the warts it was commonly seen on the scalp and face as a result of increase in facial procedures like facials^[18].

References:

1. Sterling JC. viral infections. In: Burns Brethnaches, Cox Griffiths C, editors. Rooks textbook of dermatology. Eighth ed. West Sussex: Wiley Blackwell: 2010:33-59.
2. Bernard HU, Burk RD, Chen Z, van Doorslaer K, zur Hausen H, de Villiers EM. Classification of papillomaviruses based on the 189 PV types and proposal of taxonomic amendments. *Virology* 2010;401:70-9.
3. Barr A, Coles RB. Planter Warts. A statistical survey. *Trans St Johns Hosp Dermatol Soc*. 1966;52:226-38.
4. Kikenny M, Marks R. The descriptive epidemiology of warts in the community. *Australas J Dermatol*. 1996;37:80-6.
5. Leto MD, Santos Junior GF, Porro AM, Tomomori J. Human papillomavirus infection: etiopathogenesis, molecular biology and clinical manifestations. *An Bras Dermatol*. 2011;86:306-17.
6. De Koning MN, ter Schegget J, Eekhof JA, Kamp M, Kleter B, Gussekloo J, et al. Evaluation of a novel broad-spectrum PCR-multiplex genotyping assay for identification of cutaneous wart-associated human papillomavirus types. *J Clin Microbiol*. 2010;48:1706-11.
7. Chardonnet Y, Viac J, Thivolet J. Langerhans cells in human warts. *Br J Dermatol*. 1986;115:669-75.
8. Kirnbauer R, Lenz P. Human papilloma virus, In Bologna JL, Jorizzo JL, Schaffer JV, editors. *Dermatology*, 3rd edition, China Elsevier: 2012:1303-1319.

9. Sudhakar Rao KM, Ankad BS, Varna naidu VS, Vinod A. A clinical study on warts J clin diagnos Res 2011;5:1582-4.
10. Kushwaha P, Singh S, Kumar H, Mohan A, Kaur S. Warts spectra of different clinical presentations IOSR J dental med science 2014;8:62-4.
11. Berth Jones J, Hutchinson PE. Modern treatment of Warts the cure rates at 3 and 6 months Br J Dermatol 1992;127:1582-5.
12. Ghadgepatil SS, Gupta S, Sharma YK. Clinicoepidermal study of Different Types of Warts Dermatol RES Practices .2016;79898117.
13. Antonsson A, Karanfilovska S, Lindqvist PG, Hansson BG. General acquisition of human Papillomavirus infection of skin occur in early infancy . J clin Microbial 2003;41;2509-14.
14. Hazard K, Karlsson A, Anderson K, Ekberg H, Dillner J, Forslund O. Cutaneous human papillomavirus on healthy skin . J Invest Dermatol 2007;41;2509-9.
15. Laxmisha C, Thappa DM, Jaisankar TJ. Viral Warts A clinical epidermological study . Indian J Dermatol 2003;48;142.
16. Berman A, Winkelmann RK. Involuting common Warts . Clinical and histopathologic findings. J AM Acad Dermatol , 1980;3;356-62.
17. Durai PC, Nair DG. Acne vulgaris and quality of life among young adults in south india . Indian J Dermatol .2015;60;33-62.
18. Egawa K, Honda Y, Inaba Y, Ono T. Pigmented viral warts ; a clinical and histopathological study including human papillomavirus typing . Br J Dermatol. 1998; 138:381-9. CITE THIS ARTICLE AS:- Gopal V, Shenoy MM, Pinto M. Common warts NETIAL WARTS : Spread through sexual contact appear on the genital or anal area as small.

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