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Challenges in Managing Verruca Plana in a Resource Constrained Environment Complicated with Retroviral Disease: An Overview

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Abstract

Management of Verruca plana also known as flat warts, presents a particular challenge in a resource constrained health system like the Zambian one. This paper seeks to review the literature on various modes of treatment of Verruca plana coupled with HIV co-infection and how it relates to resource constrained settings. Caused by human papilloma virus (HPV), Verruca plana is a dermatological condition that has serious negative psychological and cosmetic effects on those affected. It is managed using an expectant and interventional approach. Since dermatology has not been considered as primary care need in the Zambian healthcare system, little if any resources are directed towards the management of dermatological conditions when planning for national health needs, which means patients will receive suboptimal treatment or have to pay out of pocket for optimal treatment of conditions like verruca plana which has a lengthy and costly treatment if the interventional approach is sought after.

Keywords: Verruca plana, Human papilloma Virus, HIV, Flat Warts, 10% Salicylic Acid

Introduction

Numbers of clients with various health conditions seeking medical attention are swelling due to the fact that the health system and life expectancy has improved. However, dermatology patients still have poor Quality of Life due to various challenges the health sector is facing. Despite dermatology being an old subspecialty of medicine, it still has a lot of changes from lacking dermatological medical supplies to inadequate specialized clinicians and health workers on the field. Verruca plana is one of the dermatological manifestations of HIV related immune-compromised and HPV co-infection [1]. Verruca planus, also known as flat warts, are benign skin tumours that involve the skin and other epithelial mucosa. It is attributed to human papilloma virus infection [2]. Verruca planus is caused by HPV types 3, 10, 27 and 31. However type 3 is the commonest cause [3,4]. Verruca, means wart or warty skin lesion [5]. Verruca can be divided into four main types, namely verruca vulgaris, verruca plantaris, verruca plana and genital warts [6].

In terms of historical background, the term Verruca, first used by German physician Daniel Sennert (1572-1637) in his book Hypomnemata physicae (1636) , where he pointed out that the lesions appear on the surfaces of the skin like the eminences of little hills [7]. Flat Warts occur in up to 10% of the world's population, with the immuno-compromised and meat handlers being the most affected [8]. Particularly, verruca planus occurs mostly in children and young adults, but may affect any age group [9]. Other predisposing factors for Verruca plana are tattooing, shaving of beards in men and shaving of legs in women [10].

Clinical Presentation

Clinically verruca planus is characterised by fleshy greyish-yellowish to brown coloured, possibly hypo-pigmented and slightly elevated flat-topped papules of a few millimetres in diameter, with a smooth surface. Lesions are commonly found on the shins, face and dorsum of the hands

[11]. Examples of these lesions are as in Figures 1-5. Usually the diagnosis of Verruca plana is clinical. It can be made by the presence of multiple, small, uniform, skin coloured to brownish papillomas on clinical examination. Confirmatory biopsy for histopathology can be carried out in cases of uncertainty [9]. Histologically, characteristic findings of verruca plana lesions include acanthosis, hyperkeratosis, koilocytic – halo cells, appearing cells with the presence of hypergranulosis throughout the lesion which is a feature in human papillovirus infected cells and basket weave-like appearance of hyper-keratotic material in the stratum corneum [11]. This is as shown in the adopted Figure 5 [12].

Figure 1: 4-year-old with 5months history of localised verruca plana in Retroviral Disease Non-Reactive.

Figure 2: Disseminated Verruca Plana in Retroviral Disease in a 19-year-old African boy.

Figure 3: Verruca Plantaris in Retroviral Disease in a 19-year-old African boy.

Figure 4: Coalesced Verruca Plana in Retroviral Disease in a 51year old man on the beard region exacerbated by shaving.

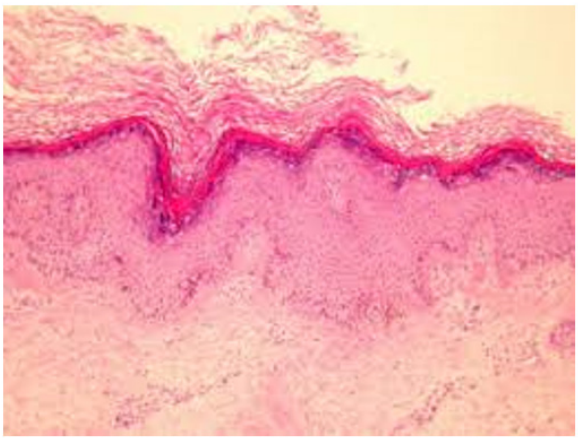

Figure 5: Histopathological picture showing acanthosis, hyperkeratosis, koilocytic and basket weave-like appearance of hyper-keratotic material in the stratum corneum.(Picture adopted from DermnetNZ……) [12].

Treatment of Verruca Plana

Lesions usually self-resolve within 2-3 years. When few and not bothersome, the lesions do not require treatment. Numerous lesions however do require treatment and can be particularly challenging and require intervention [9]. Treatment modalities can be classified into expectant and interventional which is further classified into, non-destructive (non-scarring) and destructive(scarring). Non-destructive modalities include; topical tretinoin gel, topical imiquimod cream and ablative laser. A destructive modality is Liquid Nitrogen electrodessication (which causes scaring and is usually avoided on if lesions are on the face) [9]. Ablative therapies such as cryotherapy and curettage may be beneficial in participants with few lesions [1]. Other recommended treatments include: 5-Fluorouracil (5-FU) cream, formaldehyde gel, zinc oxide, zinc sulphate 10%, topical immunotherapy, glycolic acid 15% and acupuncture [13].

Discussion

Treatment of Verruca planus and other warts presents a particular challenge in the resource constrained setting, owing to the deficiency of equipment and expertise necessary for treatment, the cost and duration of treatment. Also, the social-economic status of the client also has a huge factor to play. The recommended treatment method for patients with verruca plana is relatively expensive and also due to medical policies governing the health sector where all dermatological cases in some way are considered as cosmetic thus not covered adequately by the national health insurance scheme.

HIV infection adds to the challenge of managing Verruca plana, in that it prolongs the duration of the illness hence the duration of management. In our setup, we have employed a compounded alternative topical ointment in the management of flat warts; the cocktail is a mixture of petroleum jelly and salicylic acid with a percentage range of 10-15% depending on severity, site and tolerability of the ointment by the client. The other important factor is availability of the drug once the patient starts the treatment. As is in most cases, these lesions improve and recover with time even with the erratic use of the recommended dose and frequency.

Conclusion

Verruca plana is one of the dermatological manifestations of HIV related immune-compromised and HPV co-infection. It has serious negative impact on the psychosocial aspect of patient thus, aggressive treatment is warranted as opposed to waiting for condition to take its natural course. Authors propose the use of 10-15% ointment in the management of verruca plana whose ingredients could be cheaply and locally sourced for and compounded to a usable product.

Conflict of Interest

Authors declare no conflict of interest.

Ethic Consideration

Consent was obtained from patients and next of kin for children to use their pictures and none of patient information would be used in the document.

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