بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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A comparative Study Between Needling and Homologous Autoimplantation Techniques in Treatment of Multiple Plantar Warts

Thesis

Submitted for Partial Fulfillment of Master Degree in
Dermatology, Venereology & Andrology

By

Aml Magdy Darahem
M.B.B.Ch
Faculty of Medicine, Ain-Shams University

Under supervision

Dr. Nermeen Samy Abdel fattah
Professor of Dermatology, Venereology and Andrology
Faculty of Medicine, Ain-Shams University

Dr. Rania Mahmoud Elhusseiny
Lecturer of Dermatology, Venereology and Andrology
Faculty of Medicine, Ain-Shams University

Faculty of Medicine
Ain-Shams University
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Aml Magdy Darahem

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List of Abbreviations

Abb.	Full term
AHAs	Alpha-hydroxy acid
ALA	Aminolevulinic acid
CO2	Carbon dioxide laser
DNA	Deoxyribonucleic acid
DPC	Diphenylcyclopropenone/ diphencyprone
EDV	Epidermodysplsia verruciformis
EQ	Erythroplasia of Queyrat
HPV	Human papilloma virus
IFN-α	Interferon alpha
IL	Interleukin
MCA	Monochloroacetic acid
MMR	Measles, mumps, and rubella
NK	Natural killer
PDL	Pulse dye laser
PDT	Photo-dynamic therapy
PPD	Purified protein derivative
RCT	Randomized control trial
SA	Salicylic acid
SADBE	Squaric acid dibutyl ester
SCC	Squamous cell carcinomas
TCA	Trichloroacetic acid
TNF-α	Tumour necrosis factor-alpha

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INTRODUCTION

Viral wart is a common benign lesion that is caused by various strains of Human papilloma virus (HPV) affecting epithelium of skin and mucous membrane ***(Plasenica, 2000).***

Human papilloma virus is a subgroup of viruses belonging to the family Papovaviridae that infect humans, causing warts (papillomas) and other benign tumours as well as cancers of the genital tract, especially of the uterine cervix in women. They are small polygonal viruses containing circular double-stranded DNA (deoxyribonucleic acid) ***(Moghaddas, 2004).***

There are over 150 genotypically different types of HPVs some are specifically associated with cutaneous warts and a great number of them are associated with Epidermo-dysplasia verruciformis subtypes favour particular sites but any wart can appear at any site ***(Lynch, 2014).***

Warts are typically small, rough, and hard growths that are similar in color to the rest of the skin. They typically do not result in symptoms except when present on the bottom of the feet where they may be painful. While they usually present on the hands and feet they can also affect other locations ***(Al Aboud and Nigam, 2017).*** They include: common warts or verruca vulgaris (HPV types 2 and 4), butcher's warts (HPV type 7), filiform warts, palmoplantar warts or myrmecia (HPV type 1), mosaic warts, periungual warts, plane or flat warts

(HPV types 3 and 10), genital warts (HPV types 6,8,16 and 18), intraoral warts and Epidermodysplasia verruciformis (HPV types 5, 8, 20 and 47) ***(Lynch, 2014).***

There are different treatment strategies for warts, most treatments work by destroying affected tissues by either a cytotoxic or physically ablative mode of action as chemical, cryo and electrocautery however tissue damage alone may not be enough to produce the relevant cytokines to destroy latent virus in adjacent cells ***(Bristow and Stiles, 2012).***

Therefore, immunotherapy seems to be a promising modality in such cases. The role of immunity is documented by the appearance and persistence of warts in immunosuppressed individuals ***(Atherton et al., 2017).***

Previous reaserches on successful treatments have been aiming toward creating an enhanced systemic immune response to eradicate the virus including immunotherapy with candida albicans, tuberculin purified protein derivative (PPD) and measles, mumps, and rubella (MMR) vaccines. Moreover, one of these researches including the needling procedure, other including autoimplantation technique, both act by activation of self-cell mediated immunity against HPV ***(Liebl and Kloth, 2012).***

In the needling procedure the needle is inserted in the wart tissue and enters the underlying dermis and subcutaneous fat layer.It is hypothesissed that the mechanical trauma to the

viral tissue may enhance the inflammatory response through presenting the antigen to immune system and hence this will achieve induction of cell mediated immunity toward viral proteins resulting in eradication of infection ***(Liebl and Kloth, 2012).***

Autoimplantation is a minimally invasive procedure helping in treatment of warts also by induction of cell mediated immunity, where one of the lesions is cleaned and pared with the help of surgical blade and transferred to a sterile glass slide followed by minicing the harvested tissue into 1-2 mm sized bit, the minced bits are inserted into a deep subcutaneous pocket at the recipient site (inner aspect of the left forearm) using forceps ***(Das et al., 2016).***