



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



MONA MAGHRABY



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شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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Evaluation of Micro-Needling Followed by Tranexamic Acid Cream versus Micro-Needling Followed by Tranexamic Acid Solution in Treatment of Melasma: A Comparative Split Face Study

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

لسبحانك لا علم لنا
إلا ما علمتنا إنك أنت
العليم العظيم

صدق الله العظيم

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List of Abbreviations

Abb.	Full term
<i>CO2</i>	<i>Carbon dioxide laser</i>
<i>DEJ</i>	<i>Dermo epidermal junction</i>
<i>DIC</i>	<i>Disseminated intravascular coagulation</i>
<i>DOPA</i>	<i>Dihydroxyphenylalanine</i>
<i>DVT</i>	<i>Deep venous thrombosis</i>
<i>EACA</i>	<i>Epsilon -aminocaproic acid</i>
<i>EI</i>	<i>Erythema index</i>
<i>ENT</i>	<i>Ears, nose and throat surgery</i>
<i>Er:YAG</i>	<i>Erbium:YAG laser</i>
<i>FDA</i>	<i>Food and Drug Administration</i>
<i>FGF</i>	<i>Fibroblast growth factor</i>
<i>FM</i>	<i>Fontana-Masson stain</i>
<i>FWA</i>	<i>Federalwide Assurance</i>
<i>GA</i>	<i>Glycolic acid</i>
<i>SA</i>	<i>Salicylic acid</i>
<i>H&E</i>	<i>Hematoxylin & eosin stains</i>
<i>Hemi –MASI</i>	<i>Hemi Melasma Area and Severity Index score</i>
<i>HQ</i>	<i>Hydroquinone</i>
<i>IPL</i>	<i>Intense pulsed light</i>
<i>MASI</i>	<i>Melasma Area and Severity Index</i>
<i>MC1R</i>	<i>Melanocortin type 1 receptors</i>
<i>MELASQoL</i>	<i>Melasma Quality of Life Scale</i>
<i>MI</i>	<i>Melanin index</i>
<i>mm</i>	<i>Millimetres</i>
<i>MSH</i>	<i>Melanocyte-stimulating hormone</i>
<i>nm</i>	<i>Nanometer</i>
<i>OCPs</i>	<i>Oral contraceptive pills</i>

List of Abbreviations (Cont...)

Abb.	Full term
<i>PDZK1</i>	<i>PDZ domain containing 1</i>
<i>PIH</i>	<i>Post-inflammatory hyperpigmentation</i>
<i>PIPA</i>	<i>Post-inflammatory pigment alteration</i>
<i>QNd:YAG</i>	<i>Q-switched neodymium:yttrium–aluminium-garnet lasers</i>
<i>QSRL</i>	<i>Q-switched ruby laser</i>
<i>Q-switched lasers</i> ..	<i>Quality-switched lasers</i>
<i>RCM</i>	<i>Reflectance confocal microscopy</i>
<i>RF</i>	<i>Radiofrequency</i>
<i>SA</i>	<i>Salicylic acid</i>
<i>Sc-uPA</i>	<i>Single chain urokinase plasminogen activator</i>
<i>SD</i>	<i>Standard deviation</i>
<i>SPF</i>	<i>Sun protection factor</i>
<i>LA</i>	<i>lactic acid</i>
<i>TCA</i>	<i>Trichloroacetic acid</i>
<i>TCT</i>	<i>Triple combination therapy</i>
<i>TXA</i>	<i>Tranexamic acid</i>
<i>UV</i>	<i>Ultraviolet</i>
<i>UVA</i>	<i>Ultraviolet A</i>
<i>UVB</i>	<i>Ultraviolet B</i>
<i>UVR</i>	<i>Ultraviolet radiation</i>
<i>VEGF</i>	<i>Vascular endothelial growth factor</i>
<i>ZnO</i>	<i>Zinc oxide</i>

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INTRODUCTION

Melasma is a commonly acquired hypermelanosis of sun-exposed skin on the cheeks, forehead, upper lip, nose, chin, and sometimes neck. It affects both sexes, but women are predominantly affected. The condition usually appears between the ages of 11–49 years, and causes significant cosmetic disfigurement, psychosocial stress, and embarrassment, affecting patients' quality of life (*Pawaskar et al., 2007; Picardo et al., 2009 and Sarkar et al., 2010*).

Various underlying risk factors have been implicated in the etiology of melasma including; genetic factors, pregnancy, oral contraceptives, endocrine dysfunction, hormone treatments, drugs (phototoxic agents, phenothiazines, anticonvulsants), cosmetic contact sensitivity, and exposure to ultraviolet (UV) light (*Prabha et al., 2014*).

Several histological findings are characteristic of melasma. The amount of melanin is increased in all epidermal layers. The basement membrane of the lesional skin is often disrupted and thinner. Prominent solar elastosis and increased numbers of blood vessels and elevated expression of vascular endothelial growth factor (VEGF) are other important features of melasma (*Kang et al., 2002; Hernandez-Barrera et al., 2008 and Torres et al., 2011*).