

**EVALUATING THE EFFICACY AND
SAFETY OF TREATMENT
ALTERNATIVES FOR MELASMA
PATIENTS WHO DO NOT RESPOND TO
OR DEVELOP UNACCEPTABLE
ADVERSE EFFECTS FOLLOWING THE
USE OF COMBINATION THERAPY
COMPRISING HYDROQUINONE 4%,
FLUCINOLONE ACETONIDE 0.01%
AND TRETINOIN 0.05% IN CREAM
BASE**

DR JEFFREY LIM CHUNG YEOW
ID: 1001128168
(JAN 2011 INTAKE)

THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE (ANTI-
AGING, REGENERATIVE MEDICINE AND MEDICAL AESTHETICS)
Faculty of Medicine and Health Sciences, UCSI

August 2013
UCSI UNIVERSITY LIBRARY

ABSTRACT

Melasma is a common cause of symmetrical facial hyperpigmentation, affecting predominantly middle aged women of darker skin types. Melasma is characterized by increased melanogenesis in the skin over the zygomatic arch, cheek and or mandible. The patches of hyperpigmentation characteristically have irregular margins and vary in colour between light brown to grey.

For patients who suffer from melasma which is recalcitrant to Kligman's formula or those who unfortunately develop significant side effects such as skin atrophy and ochronosis following prolonged use, there is a need for effective treatment alternatives.

Therefore, the purpose of this literature review is to find effective and safe treatment options for melasma which do not induce ochronosis or skin atrophy. The scope of this literature review will include oral medications, topical creams, iontophoresis, chemical peels, intense pulsed light and laser treatments that improve melasma.

Literature review of peer reviewed journals on currently available treatment methods with regards to melasma was undertaken. A pubmed search was done using the key words "melasma", "treatment", "management". Only English language publications were considered and animal studies were excluded.

The efficacy and adverse effects of oral procyanidin, topical oligopeptides, intralesional tranexamic acid injections, topical arbutin, kojic acid, vitamin C derivatives, intravenous glutathione, N-acetyl-4-S-cysteaminylphenol, chemical peels, intense pulsed light, Q-switched Nd:Yag 1064nm and fractional Er:Fiber 1550nm laser in the management of melasma were reviewed. Topical therapies provided variable results which ranged from fair to good with minimal adverse effects most of which are related to skin irritation and rashes that subsided on discontinuation of treatment. The results of intralesional tranexamic acid injections were promising while lasers were capable of more impressive results in some patients although there were more adverse effects which included herpes simplex reactivation, leucoderma and post inflammatory hyperpigmentation.