

## Unmasking melasma: an update

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Date: 2 February 2007  
 Venue: Washington Convention Center,  
 Washington D.C., USA  
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Melasma is a blotchy hyperpigmentation of the face. It occurs mostly over the cheeks, forehead, upper lip and nose. Ninety percent of patients are women and it is more common in brown races. Melasma may occur with the usage of oral contraceptive pills. Further, it is worsened by sun exposure. It often fades post-partum.

Melasma may cause significant psychological distress and has a significant impact on quality of life. The MELASQOL is a valid, objective measurement of the effect of melasma on a patient's HRQOL. Its discriminating power is superior to that of the SKINDEX-16 and DLQI for melasma. The PIGMENT trial demonstrated improved quality of life with effective treatment of melasma.

The principles of melasma therapy are: (i) protection from sun exposure; (ii) inhibition of tyrosinase; (iii) removal of melanin; (iv) destruction or disruption of melanin granules. As UVA, UVB and visible light induce melanin formation, UVA, UVB protective sunscreens followed by physical block containing titanium oxide or zinc oxide should be used. Topical tretinoin is effective but may cause irritation. Hydroquinone, which inhibits

conversion of dopa to melanin, is still the most effective agent for melasma.

Kligman and Willis published clinical reports in 1975, showing that there were clinical improvements in melasma by using combinations of dexamethasone 0.1%, hydroquinone 5%, tretinoin 0.1%. The proposed mechanisms of actions are as follows: (1) tretinoin reduces the atrophic effects of steroid; (2) tretinoin facilitates the penetration of hydroquinone; (3) steroid helps reducing irritation caused by tretinoin and decreases pigmentation on its own.

A variant of Kligman/Willis formula – a triple combination cream (Tri-Luma) was launched recently. It is a stable formulation of fluocinolone acetonide 0.01%, hydroquinone 4%, and tretinoin 0.05%. It is useful for moderate to severe cases and is safe on intermittent long term use.

A series of peels using superficial peeling agents may shorten the time for melasma to improve. However, they may cause excessive irritation and post-inflammatory hyperpigmentation.

### ***Learning points:***

Broad spectrum and physical sunscreens are critical for long term success in managing melasma. Hydroquinone remains the most effective agent for melasma. Topical retinoid is effective but may cause irritation. Formulations containing hydroquinone, topical steroid and tretinoin are useful in moderate to severe cases. Superficial peels may shorten the time to improve, but may cause irritation.