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Case Report

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Treatment of Refractory Melasma with Oral Tranexamic acid: A Case Report

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Abstract

Melasma, an acquired disorder of hyperpigmentation is common in Indians. Though topical skin lightening agents are available, the success rates are often variable. Management of melasma is a challenge and the search for a safe and effective therapy continues. Many studies suggested the use of oral tranexamic acid (TA) as a treatment modality for melasma. Herein we report a case of female patient with refractory melasma who showed an improvement with a combination of oral tranexamic acid 250 mg and pine bark extract 50 mg twice daily during 8 weeks treatment period. Also, there was no recurrence seen in 3 month follow-up period. This treatment modality was well tolerated.

Keywords: Tranexamic acid, Pine bark extract, Refractory melasma

Background

Hyperpigmentation disorders are common within the Indian population [1]. Melasma is an acquired disorder of hyperpigmentation characterized by many light-to-dark brown macules distributed symmetrically on the sun-exposed parts of the body. The disorder has a severe impact on the quality of life (QOL), causing deep psychological and social stress. Multiple factors implicated in the pathogenesis of melasma include genetic predisposition, pregnancy, ultraviolet radiation, thyroid dysfunction and certain drugs [2]. Topical skin-lightening agents remain the mainstay of treatment but have variable success. In patients who are refractory to topical therapy, intense pulsed light or laser interventions may be a second line option; however, the reported success rates of these procedures are low and paradoxical darkening is a recognised side-effect [3]. Oral tranexamic acid (TA) is relatively a new potential treatment for refractory melasma [4]. We present the case of a female patient who showed dramatic improvement of refractory melasma 8 weeks after oral TA administration.

Case Report

A 42 year old female presented with dark brownish colour patches on centrofacial region. Skin examination showed dark brownish hyperpigmented patches on bridge of the nose, cheeks and upper lip (Figure 1). The MASI score was 5.6. This patient had been initially applying topical kojic acid and triple drug therapy (a combination of Hydroquinone 4%, tretinoin 0.05% and fluocinolone acetonide 0.01%) for 12 weeks. However, there was no clinically meaningful reduction in the pigmentation. All routine investigations were within normal ranges. There was no family history of coronary heart disease or coagulopathy. We initiated oral Tranexamic acid 250 mg and Pine bark extract 50 mg combination twice daily (Tranesma™ Plus Tablets). During the treatment the patient was also given sunscreen with SPF 30. All other previous treatments was stopped. Treatment was continued for 8 weeks.

The results were visible post treatment in this case of refractory melasma. The MASI score at 8th week post treatment was 3. There was an improvement in the overall disease and patient satisfaction with visible skin whitening effect (Figure 2). The patient was followed up for further 3 months with no recurrence. This therapy was well tolerated and no major adverse effect was noted.

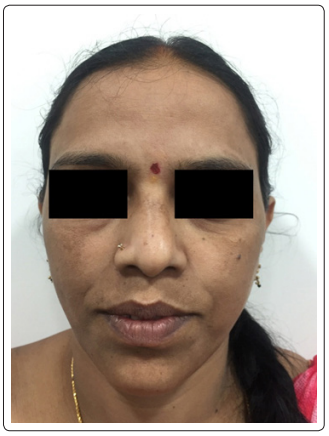

Figure 1: Shows the patient with melasma noticed on nose, upper lip and cheeks

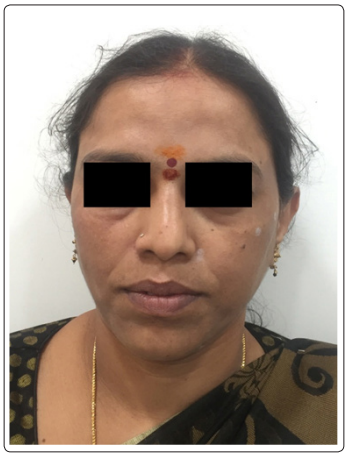

Figure 2: Shows improvement in melasma on nose and upper lip and also overall skin whitening is visible

Discussion

Management of melasma remains a challenge and the search for a safe and effective treatment option continues [5]. Laser therapy for the treatment of melasma has become an alternative to the more common treatments with topical creams and chemical peels, especially for patients with refractory cases. Different lasers have been studied in numerous clinical trials to date and a vast range of efficacies and adverse events have been demonstrated [6]. TA is a synthetic derivative of the amino acid lysine and exerts its effect by reversibly blocking lysine binding sites on plasminogen molecules, thus inhibiting plasminogen activator (PA) from converting plasminogen to plasmin. Plasminogen is also present in human epidermal basal cells and cultured human keratinocyte are known to produce PA thus, there is basic rationale that TA will affect keratinocyte function and interaction [7].

Pine bark extract is a well-known potent antioxidant which has shown to statistically decrease the melasma area and pigmentary intensity in a 30 day clinical trial [8]. A double-blind study of oral TA 250 mg twice daily for 3 months showed a reduction in MASI score with minimal side effects in moderate-to-severe melisma [9]. Nagaraju *et.al*. Demonstrated a reduction in the number of mast cells, vascularity, inflammation, edema, and decreased pigmentary incontinence in refractory melasma patients with 12 weeks of active treatment with oral tranexamic acid [10]. In our case also, we found a decrease in MASI score with visual reduction in pigmentation after 8 weeks of treatment. Oral TA is a safe and efficacious treatment for refractory melasma. It should be considered in cases that are unresponsive to topical hydroquinone and combination topical therapy over a period of approximately 12 weeks and without contraindications to oral TA [11].

In our case, we reported a meaningful reduction in MASI score during treatment with oral tranexamic acid and pine bark extract combination. Also, we found no recurrence in the follow-up period of 3 months. Overall, the therapy was devoid of any major adverse effect. Thus, it can be concluded that oral tranexamic acid and pine bark extract can be used in the treatment of refractory melasma.

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