irradiation, 2-, 7- and 28-day follow up. One subject applied topical corticosteroid immediately after laser irradiation and thereafter. H&E staining showed vacuolar change in the basal layer and dermal edema immediately after irradiation which was fully recovered over 28 days. Fontana-Masson staining showed that melanin pigment was removed and detected in the corneal layer as extracellular melanin. On day 28, variable changes in pigmentation were observed, but interestingly, no definite alteration was seen in the subject who applied corticosteroid. Melanocytic markers including NKI-beteb, MITF and tyrosinase demonstrated that melanocytes seem to be preserved against laser irradiation compared with damage of keratinocytes. Melanocytic dendricity and expression of protein were increased between 7-day and 28-day. A number of paracrine factors were also investigated. There were increased or decreased expressions of HSP-70, TNF-α, ET-1, α-MSH in the epidermis.

Key Words: Postinflammatory hyperpigmentation, Alexandrite, Laser

P250

The changes of melanogenesis in melanocyte-endothelial cell co-culture model
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Recent data have demonstrated that melasma lesions had more vascularization compared to the perilesional skin. Furthermore, the positive effect of pulsed-dye laser and tranxamic acid on treating melasma suggested that there might be some connection between melanocytes and vascular component. The effect of melanocyte-endothelial cell co-culture environment on melanogenesis was investigated. Murine melanocyte Melan-A cells and human umbilical vein endothelial cell (HUVEC) were used for co-culture model. The effects on pigmentation were investigated with measurement of melanin content, tyrosinase activity and its expression. There was increased pigmentation in co-cultured Melan-A cells in comparison with mono-cultured control cells. This increase in pigmentation was due to stimulation of tyrosinase activity and its expression through upregulation of MITF expression. These findings may provide in vitro evidence for the melanogenic effects of Melan-A:HUVEC co-cultured environment. Further studies need to find the possible melanogenic factors secreted from endothelial cells.

Key Words: Co-culture, Melanocyte, Melanogenesis, HUVEC

P251

The effect of epidermal growth factor-containing cream on the postinflammatory hyperpigmentation after laser treatment
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Postinflammatory hyperpigmentation (PIH) is a reactive hypermelanosis and sequela of a variety of inflammatory skin conditions. PIH can have a negative impact on a patient’s quality of life, particularly for darker-skinned patients. Studies show that dyschromias, including PIH, are one of the most common presenting complaints of darker-skinned racial ethnic groups when visiting a dermatologist. There are several treatments for PIH, but still no standard treatment yet. Recently, EGF (Epidermal growth factor) is suggested to be one of these methods and we aimed to evaluate the effect of EGF on PIH after laser treatment. We performed laser therapy with Q-switched 532 nm Nd:YAG laser 1.5 J/cm² to 25 senile lentigo patients. After laser therapy, we applied EGF-containing cream to “EGF group” and did not apply to “control group”. And we measured mexameter and tewameter at lesional area and perilesional area in pre-laser therapy day, 3-4 days, 7-8 days and 35 days after laser therapy. In control group, 50% (6/12) of patients developed PIH, but in EGF group, only 7.7% (1/13) developed PIH after laser therapy. EGF may be effective for preventing or treating PIH after laser therapy. Considering the dosage and duration of treatment, an optimal protocol may be needed to induce the efficacy of this treatment to achieve the PIH-preventing effect of EGF containing cream.

Key Words: EGF, PIH, Q-switched Nd:YAG

P252

Decreased melanogenesis through p53 by heme oxygenase-1 inhibitor in normal human melanocytes