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Clinical efficacy of intralesional platelet rich plasma in melasma

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Background: Melasma is a cutaneous disorder causing profound psychological morbidity. Though the exact etiopathogenesis is unknown, factors like genetic predisposition, female sex hormones and ultraviolet radiation have been implicated. Multiple therapeutic agents are available but none give clinically significant results. Thus, a need for new effective therapies arises. Platelet rich plasma (PRP) derived from the patient's own blood has shown promising results. It contains platelet α -granules having more than 30 bioactive substances like platelet-derived growth factor (PDGF) and transforming growth factor (TGF) which decrease melanogenesis via delayed extracellular signal-regulated kinase activation. PDGF further aids in the synthesis of collagen and hyaluronic acid which is responsible for skin rejuvenation. There are no studies of PRP in Indian patients of melasma.

Patients and method: This is an open labeled therapeutic trial performed at Government Medical College, Chandigarh, India from January 2017 to April 2018. Forty patients were recruited. The treatment consisted of three sessions of autologous PRP injections intralesionally 1 month apart. Therapeutic outcomes were assessed by standardized digital photography and modified melasma area severity index (mMASI).

Result: Final results after 6 months: 3 patients (7.5%)- excellent response ($>75\%$ reduction in mMASI), 8 patients (20%) -good improvement (51-75% reduction in mMASI), 13 patients (32.5%)- partial to fair improvement (26 – 50 % reduction in mMASI), 14 patients (35%) minimal or poor response (0-25% reduction in mMASI). There was 54.3 % reduction in mean mMASI which was statistically significant. All patients experienced significant improvement in skin texture. Patients reported improvement in acne scars and topical steroid induced hypertrichosis. There was no relapse at 6 months. Xerosis was observed in 35 % of the patients. One patient developed post inflammatory hyperpigmentation. Conclusion- PRP is a useful therapeutic approach for melasma and further studies are required to validate its efficacy.

Biography

Ankita Tuknayat is pursuing her post graduate residency in Dermatology in Government Medical College and Hospital, Chandigarh, India. She has 2 international publications namely Cyclophosphamide Induced Hearing loss – Reversibility and Preventive strategies in American Journal of Therapeutics and Extensive Donor Site Keloids in Follicular Unit Extraction Hair Transplantation in International Journal of Trichology. She has presented various papers as Speaker and multiple posters in various dermatology conferences across India. She has also won a second award in a poster presentation in a national conference on Dermatophytosis conducted in Post Graduate Institute of Medical Education and Research in 2017. She is an avid participant in various activities of Chandigarh Dermatology Society. She is very ambitious when it comes to learning and adding her research inputs towards medical literature.

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