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Letter to the Editor

Is Peri-Ocular Hypermelanosis Being Treated by Platelet-Rich Plasma (PRP) Intradermal Injections?

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Letter to the Editor

Sir,

Periocular hypermelanosis or periorbital hyperpigmentation is a common complaint worldwide. It is caused by multiple etiological factors. For example, genetic (hereditary), post-inflammatory, endo – crinopathies, drug ingestion, hormonal imbalances, excessive hypervascularity and secondary eyelid edema would be common causative agents [1]. Atopic and allergic contact dermatitis are common in eyelids and as they are accompanied by significant chronicity and inflammation, they can be involved in many cases of periorbital hyperpigmentation [2]. Sometimes, it is possible for infraorbital dark circles that were caused by visible prominent veins, i.e., a venous congestion may be responsible for dark pigmentation [3].

From October 15th, 2015 to October 15th, 2016, 15 female patients with idiopathic periocular hypermelanosis clinically and photographically documented by two separate dermatologists, were included in this study after giving consents for participation in this clinical study. They did not report any underlying medically significant disease in the history and nor

any specific drug ingestion. Any case with uncooperative behavior or unusual expectation were excluded from the study. As the confirmation by histologic examination may rarely be necessary, we refused to take biopsies from patients' skin, in addition, the cases did not consent to it. The photographs of the patients were taken under standard optical conditions. The design of the clinical study consisted of three sessions of autologous platelet-rich plasma (PRP) injections into the periocular skin with two months apart in between the injections. They were followed up to one year, in other words, up to 6 months after the end of the treatment.

Therapeutic outcomes were evaluated by standardized imaging, and then judgment by two independent dermatologists blinded to the study and the patients' satisfaction rates. 3 patients refused continuing the study as they were going to move to another city, so the results after 12 months were as follow: one patient (8%) reported significant improvement, 3 patients (25%) moderate improvement, and 6 patients (50%) poor if any response in the appearance of the dark circles. Two patients (17%) reported exacerbation and dissatisfaction from the trial due to their unfulfilled demands. The only objective side effects were swelling and bruises around the area of injection that were transitory in nature and did not need any intervention.

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In our opinion, due to divergent etiology and different patterns, no single treatment can be such a miracle. So, PRP is not right now a significantly helpful treatment for periocular hypermelanosis or periorbital hyperpigmentation and this has been opposed to the comments by Mehryan et al., who believed in the statistically significant improvement in infraorbital color homogeneity by PRP [4]. The different results may be due to variation of the technique and the design of two studies. Very few controlled studies refer to the therapeutic role of PRP injection in periocular hypermelanosis.

According to Ranu et al., lack of sleep, stress, alcohol overuse, and smoking, although not clinically substantiated may aggravate the hyperpigmentation of the eyelids. Changes in lifestyle are important parts of preservative therapy [5, 6]. There is some concern about the role of needle trauma (during PRP injections) in inducing post-inflammatory pigmentary changes especially in dark-skinned individuals in whom the problem is more common. Nofal E. et al, believe that PRP injections are promising for periorbital hyperpigmentation but not the ideal solution of this problem which is caused by multifactorial etiology [7]. Patient intolerance, occurring a stressful situation and need to intradermal multiple injections are the challenging problems the physicians faced with during the PRP injection procedure.

In our point of view, further studies with larger sample size or with different method or adding other treatment modalities are strongly suggested for periocular hypermelanosis treatment.

Consent

The examination of the patients was conducted according to the Declaration of Helsinki principles.

REFERENCES

1. Amani S (2017) News in Periorbital Hyperpigmentation Treatment. *J Clin Exp Dermatol Res* 8: 3 (Suppl).
2. Sheth PB, Shah HA, Dave JN (2014) Periorbital hyperpigmentation: a study of its prevalence, common causative factors and its association with personal habits and other disorders. *Indian J Dermatol* 59: 151-157. [[Crossref](#)]
3. Ma G, Lin XX, Hu XJ, Jin YB, Chen H (2012) Treatment of venous infraorbital dark circles using a long-pulsed 1,064-nm neodymium-doped yttrium aluminum garnet laser. *Dermatol Surg* 38: 1277-1282. [[Crossref](#)]
4. Mehryan P, Zartab H, Rajabi A, Pazhoohi N, Firooz A (2014) Assessment of efficacy of platelet-rich plasma (PRP) on infraorbital dark circles and crow's feet wrinkles. *J Cosmet Dermatol* 13: 72-78. [[Crossref](#)]
5. Ranu H, Thng S, Goh BK, Burger A, Goh CL (2011) Periorbital hyperpigmentation in Asians: an epidemiologic study and a proposed classification. *Dermatol Surg* 37: 1297-1303. [[Crossref](#)]
6. Gendler E (2005) Treatment of periorbital hyperpigmentation. *Aesthetic Surg J* 25: 618-624.
7. Nofal E, Elkot R, Nofal A, Eldesoky F, Shehata S et al. (2018) Evaluation of carboxytherapy and platelet-rich plasma in treatment of periorbital hyperpigmentation: A comparative clinical trial. *J Cosmet Dermatol* 17: 1000-1007. [[Crossref](#)]