

Correction of dark circles by bio-fillers -case report

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ABSTRACT : Objective- Correction of Dark circle by natural filling object plasma gel

Background- choice of procedures depending on case and patient use of blood derivatives and HA , fat , lasers are non surgical procedures results depend on procedures and demand , correction of pigment and volume are two main way by which we correct dark circles ,Blood derivatives from past used for regeneration repair volume gain natural product where as dermal fillers HA (NASHA) synthesized product main work to increase the volume in few seconds to give immediate results but comparisons between both is also very researchable topic some suggest blood derivatives for the treatment some HA , Depending on patient choice , this case report showing the differences between both and how blood derivatives used as fillers.

Result – case report on 5 patient where we inject bio-fillers for correction and filling dark circles

Conclusion- non surgical methods are effective for correction of dark circles

KEYWORD- BIOFILLER , DARKCIRCLES

INTRODUCTION

Dark rings under the eyes are defined as bilateral, round, homogeneous pigment macules over the infraorbital regions. Dark circles can be caused by a variety of conditions such as infection, inflammation, allergies, and lifestyle factors. Possible causative factors of the dark circles include excessive pigmentation thin and translucent lower eyelid skin overlying the orbicularis oculi muscle and shadowing due to skin laxity of aging and tear trough. Excessive sun exposure, drugs, hormonal causes and extension of pigmentary demarcation lines have also been considered to be contributory.¹

There are two types of dark eye circles: those of predominantly vascular etiology and those of predominantly melanic etiology. The majority, however, have mixed origins and are caused by the combination of the pigments melanin and hemosiderin. Dark circles based on predominantly vascular origin present a dominant autosomal genetic transition, whereas dark circles based on melanic origin are more frequently seen in older patients with higher phototypes. dermal melanocytes are gray or blue-gray in color as a consequence of the color transmission of black pigment through the dermis. If they are located infra-orbitally, they can be a cause of dark circles under the eyes. Although different methods for the treatment are available in the literature, most of the results are still unsatisfactory.¹ New biological methods, such as platelet-rich plasma (PRP), may be promising in the treatment of infraorbital dark circles, as in other facial rejuvenation and aesthetic which give volume and collagen induction by which there is volume gain and correction of cells which cause this hyperpigmentation correct but requires no. of sessions ,In late 1970 importance of growth factors within wound healing , growth cascade were identified .Studies however have shown that a single growth factor applied , for growth is not as effective as multiple growth factors this understanding Has led to the need for bio-tissue engineering

Strategies which can provide release of many growth factors which give healing , growth , repair volume . so role of PRP PRF and modification become so popular it is safe ,convenient easy cost effective and natural without any side effects and more acceptable ² ,another way of correction is use of synthetic filing material as

Dermal fillers is Hyaluronic acid (HA) is a carbohydrate, more specifically a muco-polysaccharide, occurring naturally in all living organisms. It can be several thousands of sugars (carbohydrates) long. When not bound to other molecules, it binds to water giving it a stiff viscous quality similar to “jelly”. Physiologically Hyaluronic acid has a role in several process including angiogenesis, extracellular matrix, homeostasis, wound healing and the mediation of long-term inflammation .³ People of all ages find them self concerned with fighting different signs of skin aging some of most popular choices for patient are injectable like dermal fillers and prp these are two non surgical enhancement techniques that will help patient to give younger look than actual age, but which prp and dermal filler is right for patient is main debatable topic .one is synthesized product(NASHA) and one is natural product both products replaces the collagen one give immediate filling effect and one forms collagen ⁴

Clinically ,its patient choice he she wants immediate results or wants no. of sessions there are some pro and cons of both procedures , With dark circles undereye depression is also key of concern so filling of that area in some patient resolve the issue so use of material which fills the area is also very important point while choosing the procedure for correction , in this case report we used prp as filler object to fill and collagen induction.in area of dark circles

METHOD

20ml of patient blood was drawn and mixed with 1ml of anti-cog ACD vial , now rotated for 12 min for 2700 RPM in centrifuge machine , now plasma solution withdraw in plan test tube and again centrifuged at 800 rpm for 8 mins

Now in some studies whole prp is used or in some studies poor plasma layer upper is taken out and chemical called activator calcium gluconate is added in upper layer , now this solution is incubated in hot water at 100c for 10mins than takeout and putting back in cold water bath at 10c for 5mins

After that cold water bath viscous gel is ready for use this gel is hard in consistency so according to area we can change the consistency to light , medium and hard with lucer look



Pre operative



post operative



pre operative image case 2



post operative image



case 3

Post operative results are calculated on basis of patient satisfaction score out of 10 the score given by patient and post op images , 0 no results , upto 3 – less volume gain and pigmentation correction , upto 6- medium correction

Upto 9 – good , 10 score- complete correction. And post operative images are the way to check the results , patient followup for 4 months with 3 sessions of this biofillers

Patient	pigmentation	Undereye depression
Case 1	Score - 6	5
Case 2	7	6
Case 3	8	8
Case 4	7	7
Case 5	8	8

Discussion

Al-Shami studied the effectiveness of platelet-rich plasma in the treatment of periorbital hyperpigmentation and reported as follows: two patients (4%) reported excellent improvement, six patients (12%) significant improvement, twenty three patients (46%) moderate improvement, and nineteen patients (38%) mild improvement in the appearance of the dark circles.⁷ In that study, the patients were asked to evaluate their own level of satisfaction by giving themselves a score from 0- 4 points and the score was translated into a range from no change to excellent. In a case report, melasma was also reported to be successfully treated with PRP with an observation of >80% reduction in epidermal hyperpigmentation.^{8,9} However, it was not reported what the scale they used for the observation.

In a split-face study, **Nofal et al** compared the efficacy and safety of PRP and the carboxytherapy in the treatment of periorbital hyperpigmentation by patient satisfaction on a 1-3 scale: 1 = slightly satisfied, 2 = moderately satisfied, and 3 = well satisfied.⁴ They found that the improvement was comparable with no statistically significant difference between both modalities and both PRP and carboxytherapy are relatively effective.⁴ In another study, Mehryan et al used almost the same scale for the assessment of satisfaction, and reported that participant's satisfaction

In our case report we used prp as filler to fill the infraorbital depression and correction of dark area , but one thing not in single session this procedure done in multiple sessions 4 times with followup of 5 months , in market write now HA is material mainly used in dark area, patient get immediate results but HA is costly product with certain complication so cost wise safety and main collagen induction property material we are using which is biofiller

CONCLUSION

Prp gel injection as dermal filler is cost effective simple ,non surgical procedure ,it is autologous material easy to obtained from patient own blood and main give immediate results with benefit of growth factor release material which forms new collagen by neocollagenesis these growth factor also enhance synthesis of extracellular material component such as HA ¹⁰

As a conclusion, in our study, we demonstrated the patient-based effects of dark eye circles before and after treatment with PRP procedure as bio filler . Our study is different from other studies in this aspect and it may be classified as the first study that evaluates the effectiveness of PRP as filler in dark eye circles by evaluating and comparing the patient's quality of life as before and after. Plasmafiller as a potent source of growth factors, can be seen as a safe, biocompatible, autologous and appropriate treatment modality for the dark eye circles formed in lower eye regions which has a thin skin that can increase the quality of patients' lives in terms of social and psychological function.¹¹

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