

FOLLICULAR UNIT EXTRACTION (FUE) WITH AND WITHOUT PLATELET RICH PLASMA FOR TREATMENT OF LIMITED DEFECTS OF CICATRICIAL ALOPECIA

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ABSTRACT:

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Background: Hair is an important part of self-image, and in most societies, hair is associated with youth, health and virility. Cicatricial Alopecia causes irreversible hair loss and negatively affects self-image and self-esteem of the patient. It leads to permanent damage of the stem cells in the hair follicle bulge. Hair transplant into a scarred area is not as straightforward as transplant into a healthy scalp, mainly because of poor vascular supply of the recipient area. PRP with its action of tissue regeneration and remodeling with angiogenesis has the potential to revitalize the scarred tissue, improve its vascularity to make it more receptive for hair transplant.

Aim of the study: the aim is to compare the outcome of follicular unit extraction with and without platelet rich plasma in cases of cicatricial alopecia as regards quantitative and qualitative characteristics of hair growth.

Patients and Methods: Forty-five patients suffering from limited defects of cicatricial alopecia were divided into three groups: Group A (15 patients) follicular unit extraction hair transplantation, Group B (15 patients) follicular unit extraction hair transplantation with intra-operative platelet rich plasma injection locally in recipient site, Group C (15 patients) follicular unit extraction hair transplantation with two sessions of platelet rich plasma locally in recipient site (intra-operative and three months post-operative). The age of patients ranged from 18 to 60 years. We evaluated the patients according to patient satisfaction score, histological evaluation of specimens using hematoxylin and eosin (H&E) stain and immunohistochemical examination using anti-Ki67 antibody for morphometric study.

Results: PRP injections resulted in directly proportional increase in patient satisfaction, cellular proliferation, antiapoptotic activity and number of mitotically active immune-positive cells regarding transplanted hair in cicatricial alopecia

Conclusions: The PRP regimen protocol together with FUE hair transplantation show better outcome with higher patient satisfaction in groups treated with PRP in comparison to other groups not managed with PRP injections, also this effect is directly proportional with the number of injections.

Keywords: Hair transplant, Platelet rich plasma, Cicatricial alopecia

INTRODUCTION:

The hair follicle is one of the characteristic features of mammals. It

serves as a unique mini-organ. In humans, hair has various functions such as protection against external factors, Production of

sebum, apocrine sweat and pheromones and thermoregulation. The hair also plays important roles for the individual's social and sexual interaction ⁽¹⁾.

Having hair is a human characteristic that conveys aspects of self-image, identity and health. Cicatricial Alopecia (CA) causes irreversible hair loss and negatively affects self-image and self-esteem of the patient. It leads to permanent damage of the stem cells in the hair follicle bulge. Causes of cicatricial alopecia are considered either primary (PCAs) or secondary (SCAs). In primary cicatricial alopecia, the hair follicle is the target of inflammatory destruction, with little effect of the disease process on other components of the dermis. In contrast, SCAs occur secondary to traumatic events, prior surgeries, burns, radiation, and traction injuries that can cause permanent scarring in hair-bearing regions ⁽²⁾.

Treatment of even small hairless areas of CA cannot be ignored because these areas can become sources of psychosocial alienation and dissatisfaction ⁽³⁾.

Reports of successful hair transplants began in the 1930s in Japanese literature. In 1968, Stoch et al., had reported the use of autologous hair transplantation for the treatment of cicatricial alopecia. 'Follicular Unit Extraction' (FUE) method was first described in 2002 by Rassman and Bernstein who noted that only the upper third of follicular units, where the arrector pili muscle attachment is located, needed to be freed by a punch for effective, viable follicle extraction.

Follicular unit extraction, now called excision (FUE), was advocated as an alternative to traditional strip harvesting of the donor tissue in view of the tendency for linear scar and greater postoperative pain in FUT. FUE has definitely contributed to the enhancement of donor area to other body parts and enhanced patient comfort. It has removed the fear of surgery and led to greater acceptance of HT among public ⁽⁴⁾.

Hair transplant into a scarred area is not as straightforward as transplant into a

healthy scalp, mainly because of poor vascular supply of the recipient area. Fibrosis in such areas predisposes to inadequate perfusion, and if transplanted grafts are not revascularized within a few days after surgery, they will not survive⁽⁵⁾. Autologous platelet-rich plasma (PRP) has been used in several experimental and clinical studies because of its benefits for stimulating cell proliferation and improving healing. Basically, three growth factors are present in the platelets of blood plasma: platelet derived growth factor (PDGF), transforming growth factor (TGF), and vascular endothelial growth factor (VEGF). These proteins molecules play a role in tissue angiogenesis, by stimulating the healing and growth of new organic structures, when they contact their respective receptors. **Uebel et al., in 2006** used PRP during hair transplant in twenty male hair pattern baldness patients and they found a considerably significant effect of platelet growth factors on the yield of follicular units over non PRP used conventional hair transplants ⁽⁶⁾.

Activation of PRP can be achieved by calcium chloride or autologous thrombin after centrifugation, releases many growth factors, such as transforming growth factor, platelet derived growth factor, vascular endothelial growth factor, epidermal growth factor, insulin-like growth factor, and interleukin-1. These factors may act on stem cells located in the bulge area of the follicles, stimulating the formation of new follicles and promoting neovascularization⁽⁷⁾.

Li et al., in 2012 investigated the effects of PRP on human hair follicle growth and explored the possible mechanisms involved. Their report suggested that PRP induces the proliferation of dermal papilla (DP) cells, increases B-cell lymphoma-2 (Bcl-2) protein levels. The expression of Bcl-2 protein during the hair cycle suggests that DP cells are normally protected from apoptosis.. Apart from these, PRP increased proliferation of epidermal and HF bulge

cells, revealed by an increase in Ki-67 (marker for cell proliferation)⁽⁸⁾.

It has also been suggested that the injection therapy could be better than submersion of grafts in PRP as there is less wastage, added benefit of faster recovery of skin, activity of dormant follicles, and faster entry into the new anagen hair ⁽⁹⁾.

While there is a long and extensive global anecdotal experience with successful treatment with hair transplantation, there is little research or publication regards quantitative and qualitative characteristics of hair growth in scarred areas.

PATIENTS AND METHODS

This study was conducted during the period from June 2017 to March 2020 on forty-five patients suffering from limited defects of cicatricial alopecia presented to the outpatient clinic. The study was conducted in Minia and Ain Shams University Hospitals. Patients were divided into three groups: Group A (15 patients) follicular unit extraction only, Group B (15 patients) follicular unit extraction with intra-operative platelet rich plasma injection, Group C (15 patients) follicular unit extraction with two sessions of platelet rich plasma (intra-operative and three months post-operative).

Surgical Technique:

Preoperative patient assessment:

A complete medical history and physical examination including evaluation of the donor area and alopecic area as regards scar maturity and the size of the recipient surface area of the scar were obtained. Once a patient scheduled the procedure, preoperative and postoperative instructions and a consent form were reviewed by the patient. Digital Photography and assessing the patient's expectations, both realistic and unrealistic are crucial, Patients must also be counseled not to expect the same hair density and thickness in the recipient site.

Operative technique:

On the day of the surgery, the hair in the donor area is shaved to 1-2mm in length to allow adequate visualization of the direction of hair entry into the scalp.

Anesthesia type:

Local anesthesia (solution of xylocaine 30 ml with addition of 30 ml normal saline with concentration of adrenaline (1:200000) for hemostatic effect, get more straight hair follicle & reduction of transection during extraction till reaching "white marbling phenomenon.

Harvesting of hair grafts:

We had used in this study surgical instruments including (micromotor & straight hand piece, instruments of Turkish made (Ertip company), sharp punches, Jewelers Micro Forceps (Extraction & implantation) & needle holder and slits) as showed at figure (1).

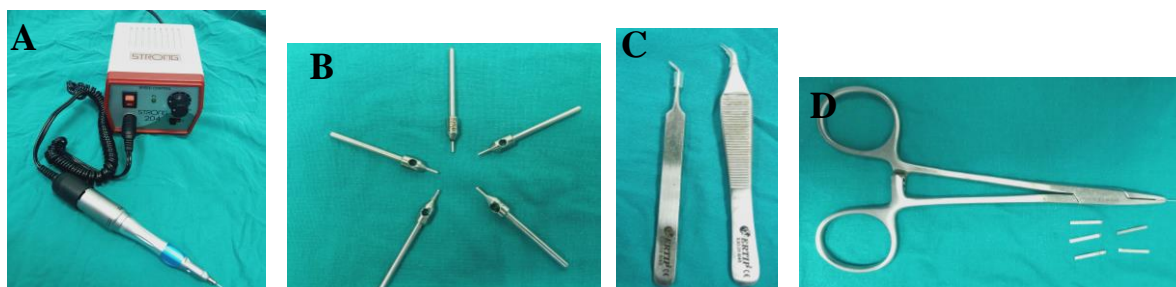


Figure (1): Shows A) micromotor system connected to straight hand piece. B) Sharp Ertip Punch 0.8ml C) Jewelers Micro Forceps for harvesting(Right) and implantation(Left) D) Needle holder and slits.

Follicular units were harvested by sharp punches 0.8 mm diameter. The punch was aligned over the scalp in the direction of the hair follicle and advanced to the level of the lower dermis with care not to enter into the subcutaneous level. With experience, one can feel the increased resistance, indicating that the punch had passed through the

papillary dermis into the denser reticular dermis. After removal of the punch, the follicular unit was manually extracted using extraction jeweler. Storage of hair follicle grafts in cold saline as showed at figure (2), we put at gauze during procedure time with keeping the grafts moist all over the time during procedure.

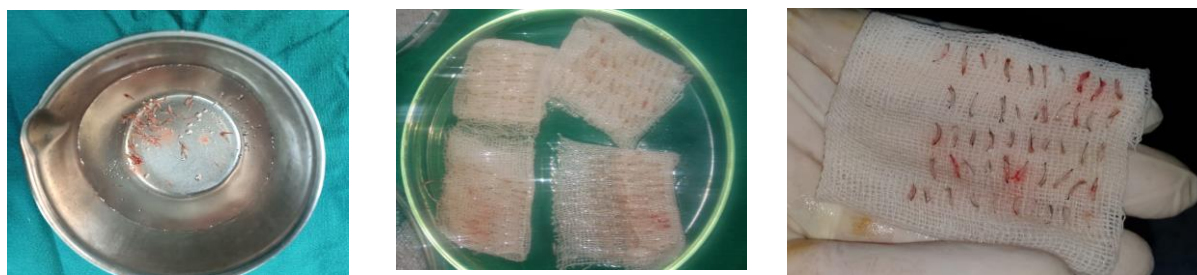


Fig (2) Shows extracted hair grafts in storage solution

Platelet rich plasma (PRP) application⁽¹⁰⁾.

During the break. PRP was prepared by double spin method and with the help of insulin syringe PRP was injected locally in affected area just prior to graft implantation.

Creation of recipient sites and implantation of hair grafts:

Creation of the recipient sites in the recipient area with blade width about 1.2 mm carried on needle holder. Recipient sites were created at a relatively similar angle to the surrounding healthy area. The slit track must reach a vascular layer and show punctate bleeding through the site before insertion of grafts. Then manual insertion of the grafts using implantation jewelers as showed at figure (3).



Fig (3) A) harvested hair grafts from donor area.
B) Hair grafts implanted in the recipient scar.

Histological study:

Specimens taken intra-operative and six months post-operative were fixed in buffered formaline solution and embedded in paraffin, then stained with hematoxylin and eosin (H&E) and examined

microscopically. The specimens were prepared & examined by immunohistochemistry technique using anti-Ki67 antibody for morphometric study (counting the number of dividing cells).

Post-Operative Care.

Instructions for avoidance of over action, exercise, touching or sleeping over the recipient area, vigorous hair washing, and sun exposure in the 1st two weeks post-operative. Bandage was removed 48 h Post-operatively. Warm saline may be used to facilitate the separation of the adherent vaseline gauze from the scalp by dissolving the crusted material over it

Evaluation of the technique:

The results are evaluated according to:

- **Patient satisfaction score**

Patients were asked to rate the result on a linear analogue scale (1-10)

1-2 very poor 3-4 poor 5-6 fair 7-8 good 9-10 very good

It's based on the following questions (Two marks for each item):

- Camouflage; camouflaged or not.
- Hair density; accepted or not.
- Intraoperative comfort; patient felt comfort during the operation or not.

- Wish to reoperate other scar site, or not.
- Offer this choice for another patient or not.

RESULTS;

Forty-five patients suffering from limited defects of cicatricial alopecia were divided into three groups: Group A , Group B, Group C. The mean age of patients in the three groups was 26.7±7.8 , 27.3±7.7, 26.9±6.9 years respectively. Male gender represent 86.7% of cases. The mean operative time was 2.6±0.8 hours in group A, 2.3±0.9 hours in group B, 2.3±1.2 hours in group C. the site of the alopecic area was located in scalp (75%), Eye brow (11.1%), Beard (8.9%), Mustache (4.4%). The cause of alopecia was post traumatic (66.7%) and post burn (26.7%) of cases. The operative time was longer in post burn cases as shown in table (1).

Table (1) Lesion type vs (surface area – operative time)

		Post traumatic	Post burn	P value
		N=30	N=12	
Surface area	Median IQR	5.8 (3.4-10.6)	11 (4.3-27.5)	0.086
Duration	Median IQR	2.1 (1.8-2.4)	2.6 (2-4.3)	0.032*

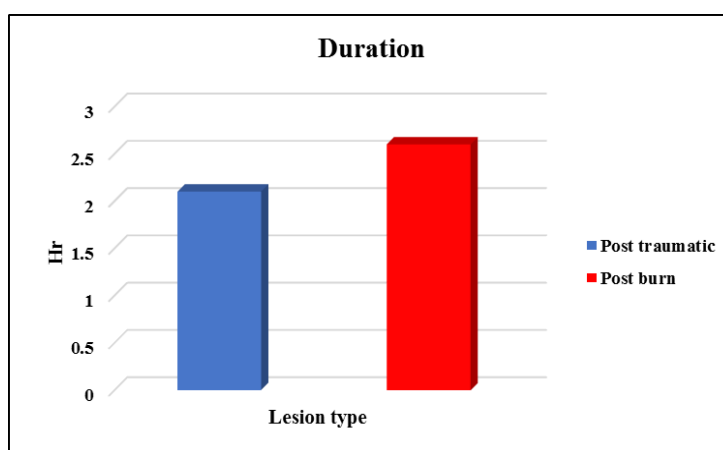


Diagram (1) Correlation between lesion type and mean operative time (duration).

Post-operative complications listed in table (2) are usually minor and included telogen effluvium (thinning or shedding of

hair resulting from early entry of hair in the telogen phase) in four cases with no infection or crust formation or folliculitis

observed in any case. Also, there is Statistically significant difference (p-value < 0.05) between (group A vs group B) and (group A vs group C) as regards density and

telogen effluvium.. With no statistical significant difference (p-value > 0.05) between group B and group C.

Table (2) Post-operative complications

	Total	Group A	Group B	Group C	P value		
	N=45	N=15	N=15	N=15	A vs B	A vs C	B vs C
No growth of hair follicle	3(6.7%)	3(20%)	0 (0%)	0 (0%)	0.068	0.068	----
Alopecia or decreased density	4(8.9%)	4(26.7%)	0 (0%)	0 (0%)	0.032*	0.032*	----
Infection at donor or recipient	0(0%)	0 (0%)	0 (0%)	0 (0%)	----	----	----
Crust at recipient site	3(6.7%)	3(20%)	0 (0%)	0 (0%)	0.068	0.068	----
Folliculitis	0 (0%)	0 (0%)	0 (0%)	0 (0%)	----	----	----
Sloughing at recipient site	0(0%)	0 (0%)	0 (0%)	0 (0%)	----	----	----
Hypo or hyperaesthesia	0(0%)	0 (0%)	0 (0%)	0 (0%)	----	----	----
Telogen effluvium	4(8.9%)	4(26.7%)	0 (0%)	0 (0%)	0.032*	0.032*	----

The results were evaluated according to patient satisfaction score which shows highly statistical significant difference (p-value < 0.001) between group A and group C, Statistically significant difference (p-

value < 0.05) between group A and group B, No statistical significant difference (p-value > 0.05) between group B and group C as shown in table (3) diagram (2).

Table (3) Patient satisfaction in different groups

Patient's satisfaction	Total	Group A	Group B	Group C	P value		
	N=45	N=15	N=15	N=15	A vs B	A vs C	B vs C
Very good	6(13.3%)	0 (0%)	4(26.7%)	6(40%)	0.004*	0.001*	0.497
Good	17(37.8%)	2 (13.3%)	8(53.3%)	8(53.3%)			
Fair	11(24.7%)	7 (46.7%)	3(20%)	1(6.7%)			
Poor	7(15.6%)	4(26.7%)	0(0%)	0(0%)			
Very poor	4(8.9%)	2 (13.3%)	0(0%)	0(0%)			

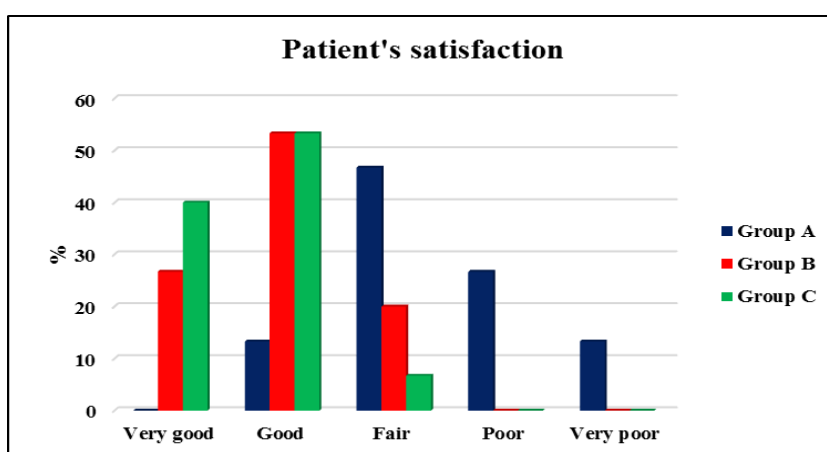


Diagram (2) Patient satisfaction in the studied groups.

Histological evaluation:

Histological evaluation of specimens revealed more preserved structure of hair follicle with less apoptotic cells in the

groups treated with PRP with highly statistical significant difference (p-value < 0.001) between (group A and group B) (group A and group C) (group B and group

C) as regard number of Ki-67 positive cells as shown in figures (4,5), table (4), diagram (3).

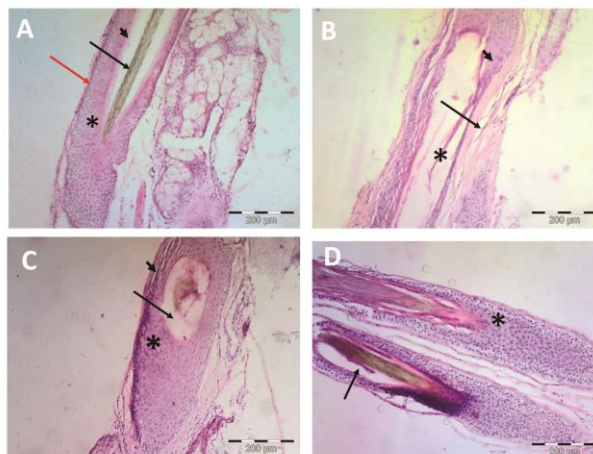


Figure (4) Representative photomicrograph of hair follicle showing.

a) Normal structure of hair follicle, medulla with thick keratin (arrow) cortex (arrowhead) inner root sheath (*) and outer root sheath (red arrow) (b) surgical implanted follicle in CA after 6 months (Group A), notice apoptotic cells (*) and separation (arrowhead) in the inner root sheath abnormal widening of the medulla (arrow). C) Surgical implanted follicle after 6 months with platelet rich plasma single dose (Group B) Notice cellular proliferation (*) cell separation (arrowhead) in the inner root sheath, with nearly normal medulla (arrow). (D) Surgical implanted follicle after 6 months with platelet rich plasma multiple dose (Group C) notice the increase in cellular number in the inner root sheath (*) and normal medulla (arrow) scale bar 200µm H&E x200

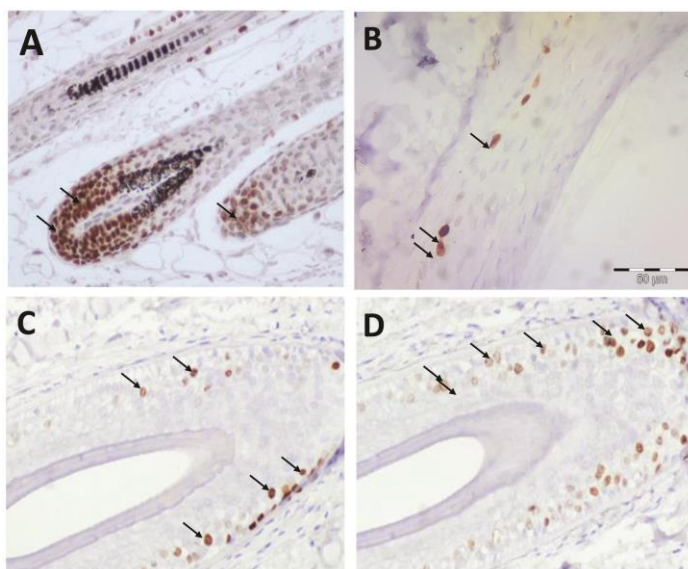


Figure (5) Representative photomicrograph of Ki 67 immunohistochemistry of hair follicle showing :

a) normal expression of Ki 67 in hair showing large number of immuno-positive cells (arrow) b) surgical implanted follicle in CA after 6 months (Group A) Notice few number of Ki67 immuno-positive cells . C) Surgical implanted follicle after 6 months with platelet rich plasma single dose (Group B) Numerous cells are immuno -positive for Ki67. D) surgical implanted follicle after 6 months with platelet rich plasma multiple dose (Group C) Numerous cells are immuno -positive for Ki67.

months with platelet rich plasma multiple dose (**Group C**) notice more numerous cells are immuno-positive. Anti ki67 antibody scale ber 50um x400

Table (4) Number of Ki-67 positive cells in different groups

	Control	Group A	Group B	Group C	P value
	N=15	N=15	N=15	N=15	
Ki-67 positive cells	±0.41649.2	±0.3068,4	±0.51813.7	±0.63629.6	<0.001*
P value					
Control		<0.001*	<0.001*	<0.001*	
Group A			<0.001*	<0.001*	
Group B				<0.001*	

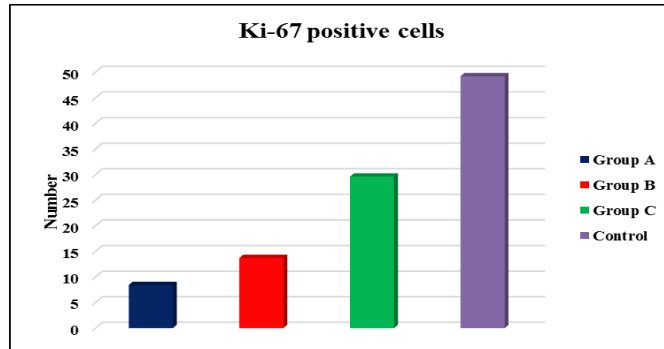


Diagram (3) Number of Ki-67 positive cells in different groups.

Case Reports:

Case (1) (Group A): Male Ptn 21 years old with post-traumatic scar on parietal

region of scalp. A) Pre-operative photo B) Close-up view (Pre) C) Six months post-operative D) Close-up view (Post)



Case (2) (Group B):

Male Ptn 29 years old with post-traumatic scar on occipital region of scalp (one PRP injection) A) Pre-operative

photo B) Intra-operative photo C) Six months post-operative D) Close-up view (Post).



Case (3) (Group C):

Male Ptn 27 years old with wide post-traumatic scar on lefttemporoparietal region of scalp(two PRP injections) A) Pre-

operative photo B) Intra-operative photo C) Ten days post-operative D) Six months post-operative.



DISCUSSION:

One stage FUE hair transplantation of cicatricial alopecia has been demonstrated by many studies (*Wang et al, 2010*) (*Farjo et al, 2015*) (*Ors,2017*).

FUE technique for Patients with cicatricial alopecia so as not to add more scar impact on patients.

FUE is not a scarless technique. It is a scar-spreading technique. This technique prevents a linear scar, We advise the use of

In 2013 *Kutlubay et al*, decided that the condition must be stationary before considering hair restoration process in cases of cicatricial alopecia to make sure that

blood supply is sufficient to nourish the hair graft, also **Pathomvanich and Imagawa** in **2010** reported that a minimal waiting period of 4 to 6 months is recommended, to be assured that the scar is mature and there will be no further hair growth. In the current study, minimum waiting period was 6 months. Any patients with recent history of cicatricial alopecia less than 6 months were excluded.

We are assessing the patient's expectations, both realistic and unrealistic. Patients must also be counseled not to expect the same hair density and thickness in the recipient site, Many sessions were recommended in the literature to obtain optimum satisfying results for patients with cicatricial alopecia, as stated by **Barr and Barrera** in **2011** that one to three sessions of hair transplantation will be required to achieve optimal aesthetic results.

In the current study we explained the possibility of multiple sessions to our patients in order to adjust their expectations also to obtain the best satisfying and aesthetically accepted results, and however only one session was included and recorded in the study for making the outcome of the procedures statistically coherent.

In the current study, most of our cases were males (87 % of cases). That could be explained to the more aggressive life style and incidence of traumas in males compared to females. This agrees with a study done by **Madura et al**, in **2020** on 50 patients affected with CA who underwent HT (FUE technique) , male gender represented (84%) of cases.

The whole procedures in the current study were done under local anesthesia, this was accomplished with help of the good compliance of the age group population selected for this study.

Barr and Barrera in **2011** advised to limit the use of epinephrine in the cicatrized recipient bed during its preparation prior to

hair grafts insertion, Also **Kutlubay et al.**, in **2013** recommended that epinephrine concentration to be used in recipient preparation should be minimized than that used in the donor area preparation (1/200.000) as it may decrease the blood supply and therefore graft survival. In **2016 Saxena, et al.**, haven't used adrenaline for anesthesia or tumescent fluid in both donor and recipient. In the current study, the same adrenaline concentration for donor area preparation was used for preparing the recipient cicatrized area (1:200000). That would keep the benefit of adrenaline's hemostatic effect in good visualizing of the slit sites prepared and adjusting the required hair angle during insertion with no evidence of impaired vascularity or sloughing at the recipient site.

Recommendations for the optimal site of graft harvesting varied in the literature as **Jung, Oh et al.**, in **2013** experienced a study of hair follicle transplantation on scar tissue of 25 cases where most of graft harvesting was obtained from the occipital and posterior auricular are as **In 2015 Ors, et al.**, stated that the occipital region is the easiest area for graft harvesting. In the current study we used the occipital scalp as a donor area where accessibility with less transection rate were noticed, while temporal and thin supra auricular hair were used for a lesser extent to mimic the natural appearance of areas with normally thinner hair growth (beard and eyebrows).

The most significant factor of short-term failure with FUE noted by **Rassman, et al.**, in **2016** was due to inability to align the grafts as the punch advances at the correct angle and this may result in transection. In our study the punch was aligned over the scalp in the direction of the hair follicle and advanced to the level of the lower dermis. Each punch is advanced into the dermis (approximately 2 mm), with care not to enter into the subcutaneous level. We depend only on counter traction with dry gauze with

swelling injection of tumescent to produce more straightening of hair follicle and we get a good results with low transaction rate.

Also **Sharma & Ranjanin 2019** documented that transection or physical injury to the grafts is a major drawback of FUE when compared to FUT which is one of the major reasons of failure of grafts, So gentle and meticulous handling of the grafts is crucial throughout the whole procedure and implantation should be done by the surgeon himself.

In patients with cicatricial alopecia the total number of grafts depends mainly on the site, size & quality of scarring tissues, commonly the size of the affected area is higher in post-burn than in post-traumatic cases and therefore more grafts are needed.

Density in the transplanted area is affected by two factors: the caliber of the transplanted hair and the number of FUs implanted/cm² of recipient area. The density of incisions in the recipient area is one of the most difficult decisions for a surgeon who is operating in a region of cicatricial alopecia. A relatively higher-density is essential for a better appearance. However, the blood supply in scars is limited and may lead to poor graft survival.

In agreement with a study done by **Shao, et al. in 2014** on 37 patients complaining of secondary cicatricial alopecia recipient scar densities was about 20 FU/cm². Their result indicated that this density was sufficient for the patients' postoperative appearance and had an acceptable FU survival rate during long-term follow-up. In general, even higher FU densities are not recommended in areas of cicatricial alopecia.

Our study agrees with the study done by **Kutlubay et al., in 2013** stated the total average time of operation is longer in post-burn than in post-traumatic cases.

To avoid & minimize graft failure, We maintain gentle graft handling throughout

the procedure, Creating the recipient sites in the recipient area with blade sized 1.2 mm for hair graft taken by punch 0.8 ml, deepening the slit incision until punctate bleeding follows to reach vascular plane and to allow adequate depth for graft insertion, Also the recipient incisions created follow the direction of the growth of existing adjacent hair to provide more natural direction of growth .

Considering complications in our study telogen effluvium was encountered in about 9% of cases all of them were found in group A patients who didn't receive any PRP injections, this is in accordance to what was noted by **Garg & Garg in (2017)** who used PRP as graft holding solution compared to ringer lactate reflecting decrease in telogen effluvium in PRP group

Our study agrees with the previous study done by **Garg in 2016** stated that adding PRP therapy with hair transplantation gives the patient more advances with high patient satisfaction, hair density, cellular proliferation, number of mitotically active immune-positive cells, antiapoptotic activity which were evaluated by patient questionnaire and histological analysis done 6th months postoperative when compared with other group without PRP therapy.

In this study, histological analysis of specimens taken post-operative agrees with the result of the study done by **Gentile et al, in 2015** when they used PRP injection in androgenetic alopecia suggesting increased mitotic activity detected by immunohistochemistry using antiKi67 in PRP treated follicles and our study postulated the same effect on transplanted follicles in scarred areas.

Conclusion

Secondary cicatricial alopecia is a common complication following trauma, burn or surgery to the hair bearing areas with a devastating psychological impact on the patient. To have a successful process; tissue

perfusion and resultant density in the alopecic areas are essential to be considered.

In the current study, follicular unit extraction is used for hair restoration either alone or combined with platelet rich plasma. Adding PRP injections to the FUE procedure proved increase in the cellular proliferation, number of mitotically active immune-positive cells, antiapoptotic activity detected via H&E staining and immunohistochemistry using antiKi67 compared to other cases underwent without, and therefore higher satisfaction rate. However it still needs further studies and further analysis is needed.

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مقارنة بين استخدام زرع الشعر بالاقطاف مع أو بدون البلازما الغنية بالصفائح الدموية في علاج مناطق محدودة من الصلع الندي

عمرو خيرى عبد الحكيم* و أشرف ماهر** وعبد محمد عبدالله درويش* و ندى عبدالستار**، و ابراهيم كامل**
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المقدمة: يؤدي الصلع الندي الى فقدان للشعر لا رجعة فيها نظرا لانه يسبب تلف دائم للخلايا الجذعية الموجودة في بصيلات الشعر مما يؤثر سلبا على الحالة النفسية للمرضى. وقد يكون هذا الصلع اوليا دون اسباب معروفة او قد يكون ثانويا ناتجا عن الاصابات ، والحروق او غير ذلك وفي كلتا الحالتين يتم استبدال النسيج الاصلي للشعر مع النسيج الليفي. وتعتبر فرضية استعادة نمو الشعر عفويا في هذه الحالات امرا نادرا وصعب الحدوث تمثل زراعة الشعر بطريقة الاقطاف واحدة من انجح الطرق المستخدمة في علاج الصلع الندي.

الهدف من البحث: تهدف هذه الدراسة الي مقارنة استخدام زرع الشعر بطريقة الاقطاف مع أو بدون البلازما الغنية بالصفائح الدموية في علاج حالات الصلع الندي.

المرضى وطرق البحث: قد اجريت الدراسة علي 45 مريضا يعانون من الصلع الليفي نتيجة الاصابات او الحرق او الالتهاب او بعد اجراء جراحات بالمناطق الموجود بها الشعر حيث تم تقسيمهم الي ثلاث مجموعات : المجموعة الاولى (15 مريض) تم علاج الحالات باستخدام تقنية زرع الشعر بالاقطاف فقط، المجموعة الثانية (15 مريض) تم علاج الحالات باستخدام تقنية زرع الشعر بالاقطاف مع اجراء حقن للبلازما الغنية بالصفائح الدموية اثناء الجراحة، المجموعة الثالثة (15 مريض) تم علاج الحالات باستخدام تقنية زرع الشعر بالاقطاف مع اجراء حقن للبلازما الغنية بالصفائح الدموية اثناء الجراحة ومرة اخري بعد مرور ثلاث شهور من الجراحة

النتائج : تم استنتاج درجات اعلي من التحسن والرضي لدي المرضى الذين تم حقنهم بالبلازما الغنية بالصفائح الدموية عن دونهم كما اوضحت الدراسة الهستولوجية للعينات الماخوذة من بصيلات الشعر ان حقن البلازما الغنية بالصفائح الدموية يمنح المريض مزيداً من التقدم مع كثافة شعر عالية لرضا المريض ، والتكاثر الخلوي ، وعدد الخلايا الإيجابية المناعية النشطة الانقسامية ، والنشاط المضاد للخلايا مما يجعلها أكثر تقبلاً وخصوبة للشعر المزروع وذلك من خلال التحليل النسيجي للعينات 6 أشهر بعد الجراحة بالمقارنة مع مجموعة أخرى بدون علاج البلازما الغنية بالصفائح الدموية.

الاستنتاج: تعتبر البلازما الغنية بالصفائح عامل مساعد لزراعة الشعر في المناطق المستقبلية عن طريق زيادة النشاط الانقسامي الذي تم اكتشافه بواسطة الكيمياء المناعية في البصيلات المعالجة بالبلازما الغنية بالصفائح الدموية دون غيرها، وعليه فاننا نوصي باستخدام البلازما الغنية بالصفائح الدموية مع جراحة زرع الشعر في المناطق المصابة بالصلع الندي للحصول علي نتائج افضل.