



E-ISSN: 2616-3470

P-ISSN: 2616-3462

© Surgery Science

www.surgeryscience.com

2024; 8(3): 40-46

Received: 23-06-2024

Accepted: 28-07-2024

Dr. Botla Lakshitha

Senior Resident, Department of
General Surgery, Government
Medical College, Jangaon,
Telangana, India

Dr. AS Aishwarya

Senior Resident, Department of
General Surgery, Bhaskar Medical
College, Hyderabad, Telangana,
India

Dr. Suma Sree Pisupati

Senior Resident, Department of
General Surgery, MNR Medical
College, Hyderabad, Telangana,
India

Comparison of efficacy of topical platelet-rich plasma in healing of split thickness skin grafting versus conventional split thickness skin grafting

Dr. Botla Lakshitha, Dr. AS Aishwarya and Dr. Suma Sree Pisupati

DOI: <https://doi.org/10.33545/surgery.2024.v8.i3a.1093>

Abstract

Aim: To study comparison of efficacy of topical platelet-rich plasma in healing of split thickness skin grafting versus conventional split thickness skin grafting, was conducted in the Department of General Surgery, MNR Medical College and Hospital, Sangareddy.

Methodology: This was a prospective randomized clinical trial conducted on 60 patients with chronic leg/foot ulcers due to Diabetes, trauma and varicosity of veins. It was conducted to compare the efficacy of platelet rich plasma versus the conventional method of graft fixation, i.e., surgical suture and surgical staples. Study population was divided into 2 equal groups of 30 patients each. Majority of the patients were put on antibiotic cover as per the culture and sensitivity reports. Daily dressings were done prior to grafting till repeat cultures showed no growth. This study had a similar distribution of patients in terms of age, sex, size of ulcer, type of ulcer and bacterial load.

Results: Most of the patients were in 4th and 6th decade of life. All ulcer sizes in both groups varied equal to and above 4 cm² and largest measuring 10 cm². Swab cultures were taken from all ulcers at the time of admission and after dressings. All patients were put on appropriate antibiotic therapy according to culture and sensitivity report before the STSG. Organisms encountered were Klebsiella, Escherichia coli, Pseudomonas Aeruginosa, Staphylococcus, Streptococcus and one case of MRSA. Post-operative complications (seroma and hematoma formation) were less in the PRP group compared to the Conventional group. 100% Graft uptake was achieved faster with STSG fixation using PRP in comparison to the conventional group (POD5 vs POD8, 50% of the patients had 100% graft uptake). Number of days of hospital stay and cost of treatment were significantly shorter in the PRP group when compared to the Conventional group. In this study, we have observed that post STSG, seroma and/or hematoma formation was more in the conventional group than in the PRP group. In the PRP group, out of the 30 patients, only 2 patients had hematoma formations and 18 patients had no seroma/ hematoma formation at the time of the first dressing and by the 5th post-operative day 100% of the patients had no complications. Whereas, in the conventional group after 6 days post STSG, only 50% of the patients had no complications.

Conclusion: Finally the study concluded that PRP can be considered as a better option to the conventional method (suture/staple) in fixation of STSG and is a rapid and safe method of management of all patients with chronic leg/foot ulcers of diabetic, traumatic, and venous origin.

Keywords: PRP, STSG, foot ulcer, diabetic, pod

Introduction

Chronic wounds are characterized by their inability to heal within an expected time frame. Chronic wounds include, but are not limited, to diabetic foot ulcers, venous leg ulcers, and traumatic ulcers. An ulcer is a break in the continuity of the covering epithelium, either skin or mucous membrane due to molecular death [1, 2]. Ulcers that do not heal spontaneously require skin grafting. Skin grafts are conventionally fixed using surgical staples or sutures.

1%-2% of the population in developed countries is reported to experience a chronic wound during their lifetime [3]. Chronic wounds are more common in elderly populations and in those with comorbid conditions, such as diabetes, hypertension, peripheral vascular disease, renal disease, and hepatic disorders.

Platelet rich plasma is plasma which has concentrated quantity of platelets. Platelets produce multiple growth factors, cytokines and polymorphonuclear cells which initiate multiple cascades.

Corresponding Author:

Dr. Botla Lakshitha

Senior Resident, Department of
General Surgery, Government
Medical College, Jangaon,
Telangana, India

Each growth factor activates one or several response pathways, which depend on the cellular environment. Platelets act as hemostatic agents but also as regulators of inflammation, angiogenesis, cell migration, and proliferation. Platelet Rich Plasma induces the reparative phase of healing and shortens the inflammatory phase. Thus, a concentrated amount of platelets produces a faster uptake of the graft by less inflammation which reduces postoperative production of seroma or hematoma, faster neovascularization and proliferation of cells [4-8].

The present study was aimed to study the efficacy of topical platelet-rich plasma in healing of split thickness skin grafting versus conventional split thickness skin grafting.

Aim and objectives of the study

Aim

To compare the efficacy of topical platelet-rich plasma in healing of split thickness skin grafting versus conventional split thickness skin grafting.

Objectives

The purpose of this study is:

- To measure and analyze various parameters, like incidence of post-operative pain, graft rejection, duration of hospital stay and effective cost of treatment.
- To define the efficacy of topical PRP in early uptake of split thickness skin grafting in patients of chronic foot ulcers.

Materials and Methods

Source of data

All the patients admitted with chronic leg ulcers in the Department of General Surgery, MNR Medical College and Hospital, Sangareddy, and satisfying the inclusion and exclusion criteria were included in our study.

Study Design: Prospective Comparative observational study

Study Period: (18 months) JANUARY 2021 to August 2022 with a minimum follow-up of 3 months.

Sample Size: Patients will be divided into two study groups of 30 patients each, i.e., conventional group which include the use of surgical staples/sutures with split thickness skin grafting and the topical PRP group with split thickness skin grafting.

Inclusion Criteria

- Age 18 yrs. - 70 yrs.
- Healing chronic leg and foot ulcers – diabetic, traumatic, varicose/venous.

Exclusion Criteria

- Patients <18 yrs. and >70 yrs.
- Ulcers due to malignancy, burns, decubitus, trophic, neurogenic, vasculitis, peripheral vascular disease, connective tissue disorders, immune disorders.
- Positive patients of HIV/HCV.
- Patients with comorbidities like tuberculosis, leprosy.
- Patients on corticosteroids, immunosuppressants, radio/chemotherapy.

Methodology

A written informed consent was taken from all patients before their inclusion in the study. The study was approved by the ethical committee of the hospital. All the patients were interviewed for detailed clinical history and examined. The pros

and cons of both the procedure were explained in detail to the patient.

Data was collected using a case recording proforma pertaining to patient particulars- age/sex, history, clinical examination, investigations, diagnosis, medical and surgical management, after admission in the Department of General Surgery.

Investigations which were carried out:

1. Routine

- Complete blood count.
- Renal function test.
- Random blood sugar.
- FBS/ PPBS/HBA1C.
- Serum electrolytes.
- BT, CT/PT, INR.
- Serology- HIV/HBsAG/HCV.
- Urine routine & microscopy.
- Urine ketone bodies.
- ECG/ Chest x-ray / 2D-ECHO.

2. Pus Culture and Sensitivity

3. Radiology

- X-ray foot and/or leg – AP/lateral/oblique view.
- Venous doppler of the affected limb.

A total of 60 patients of chronic leg and foot ulcers were admitted. Patients were randomly divided into two study groups of 30 patients each, i.e., conventional group which included the use of surgical staples/sutures with split thickness skin grafting and the topical PRP group with split thickness skin grafting.

Platelet-Rich Plasma (PRP)

It is prepared on the day of the surgery.

- 16ml of patient's venous blood is drawn, preferably from the cephalic/femoral vein.
- 4ml of blood is transferred to each of the 4 vacutainers by pouring gently along the sides of the tube to avoid damage to cells and is mixed with 1ml of anticoagulant.
- Blood is centrifuged at the speed of 1000 revolutions/minute for 20minutes.
- Blood gets separated into 3 layers supernatant PRP, buffy coat and red blood cells at the bottom of the vacutainer.
- Approximately 5ml of the PRP is required for covering a wound area of 100 cm².
- The supernatant PRP and the buffy coat is withdrawn into syringes and kept ready for use.

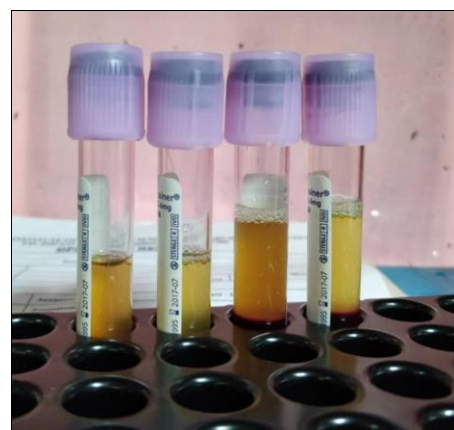


Fig 1: Vacutainers showing the supernatant layer, PRP, after centrifugation of patient's blood

Surgical Procedure

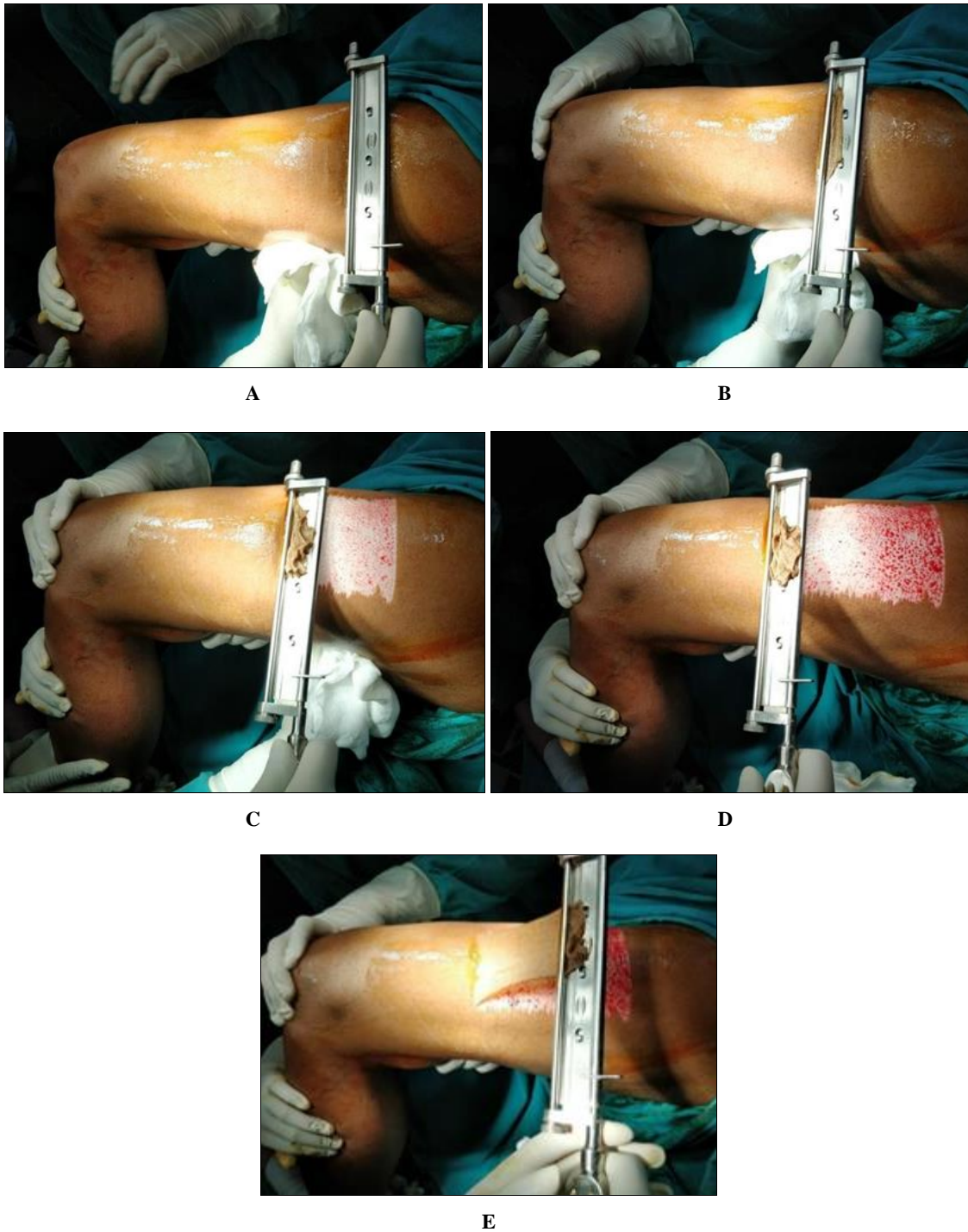


Fig 2: Split Thickness Skin Graft Harvesting a) & b) Use of a manual knife, held at an angle against the skin, after application of 2% lignocaine jelly over the skin, using to and fro movements to attain the split thickness of the skin c) & d) Development of Dermal Punctate Hemorrhage post graft harvest e) Split Thickness Skin Graft Harvested

Statistical Methods

The statistical analysis was performed by STATA 11.2 (College Station TX USA). Chi Square test has been used to measure the association between the age distribution, type of ulcer, gender, type of organism, seroma and hematoma presentations with the groups (Conventional and PRP methods) and these were expressed as frequency and percentage. Students' t-test were used to find the significant difference between the age and graft taken in percentage with groups and It's expressed as mean and standard deviation. Two sample t-test was used to find the difference between the mean and standard deviation of number

of days of hospital stay and cost of treatment between the two group. $p < 0.05$ as statistically significant.

Observations and Results

Table 1: Age Distribution

Age (In years)	Conventional	PRP	Total	P-Value
22-40	8 (26.6%)	12 (40%)	20	0.104
41-60	14 (46.6%)	16 (53%)	30	
>60	8 (26.6%)	2 (7%)	10	
Total	30	30	60	

Table 2: Type of Ulcer

	Conventional	PRP	Total	P-Value
D	15 (50%)	14 (47%)	29	0.957
T	6 (20%)	6 (20%)	12	
V	9 (30%)	10 (33%)	19	
Total	30	30	60	

There were only three different types of ulcers in this study, diabetic, traumatic and venous. From table 4, it can be observed that the ratios are Diabetic-15:14, traumatic 6:6 and venous-9:10 in the conventional group and PRP group respectively. Hence, the types of ulcers amongst the two groups are statistically similar (p value 0.957).

Table 3: Pre-STSG Bacterial Load

	Conventional	PRP	Total	P-Value
EC	6 (20%)	9 (30%)	15	0.917
K	9 (30%)	9 (30%)	18	
MRSA	1 (3.3%)	0	1	
PA	6 (20%)	5 (16.67%)	11	
SA	2 (6.67%)	1 (3.33%)	3	
SC	2 (6.67%)	2 (6.67%)	4	
Nil	4 (13.33%)	4 (13.33%)	8	
Total	30	30	60	

Culture swab was taken from all the cases prior to STSG. Organisms encountered in both the groups were predominantly E. coli (EC-15 patients (25%)), Klebsiella (K-18 patients (30%)) and Pseudomonas Aeruginosa (PA- 11 patients (18.3%)). 7 patients were found to have staphylococcus aureus (SA-5%) and streptococcus (SC-6.6%). Only one case of Methicillin Resistant Staphylococcus Aureus (MRSA-3.3%) was encountered in the conventional group. All patients were put under appropriate antibiotic cover as per the sensitivity results. There was no significant statistical difference (p value 0.917) between the conventional and PRP groups.

Table 4: Complications Post STSG (Discharge)

	Conventional	PRP	Total	P-Value
Day2 (after 48hrs)				
Nil	-	18 (60%)	48	0.002*
H+	-	2 (6.67%)	2	
SM+	-	10 (33.33%)	10	
Day				
H+	12 (40%)	0	12	<0.001*
SM+	16 (53.3%)	7 (23.3%)	23	
Nil	2 (6.67%)	23 (76.6%)	25	
Day 4				
H+	8 (26.6%)	0	8	<0.001*
SM+	19 (63.3%)	1 (3.3%)	20	
Nil	3 (10%)	29 (96.6%)	32	
Day 5				
H+	5 (16.6%)	0	5	<0.001*
SM+	10 (33.3%)	0	10	
Nil	15 (50%)	30 (100%)	45	
Day 6				
H+	1 (3.23%)	-	1	<0.001*
SM+	14 (48.39%)	-	15	
Nil	15 (50%)	-	45	

In the conventional group, post-operatively (post STSG), the dressing was first opened and done out on Post-operative Day 3 (after 72 hrs).

On POD3: A total of 12 patients (40%) were noted to have hematoma, 16 patients (53.3%) has seroma and 2 patients (6.67%) had no active discharge.

POD4: 8 patients (26.6%) had hematoma, 19 patients (63.3%) had seroma and 3 patients (10%) had no discharge.

POD5: 5 patients (16.6%) had hematoma, 10 patients (33.3%) had seroma and 15 patients (50%) had no discharge.

POD6: 1 patient had hematoma, 14 patients (3.32%) had seroma and 15 patients (48.39%) had no discharge (50%). So, after 6 days of grafting, 50% of the patients had no complications in this group.

In the PRP group, post-operatively (post STSG), the dressing was first opened and done out on Post-operative Day 2 (after 48 hrs).

On POD2: A total of 18patients (60%) were noted to have no discharge, 2 patients (6.67%) had hematoma and 10patients (33.33%) had seroma.

On POD3: no patient had hematoma, 7 patients (23.3%) has seroma and 23 patients (76.6%) had no active discharge.

POD4: No patient had hematoma, 1 patient (3.3%) had seroma and 29 patients (96.6%) had no discharge. So, by the fifth post-operative day after grafting, 100% of the patients had no complications in this group.

Table 5: Status of Graft Uptake post STSG (%)

Graft Uptake (%)	Conventional					PRP				
	<70	70	80	90	100	<70	70	80	90	100
POD2						-	12	13	5	-
POD3	11	13	6	-	-	-	5	15	6	4
POD4	8	13	8	1	-	-	-	8	3	5
POD5	6	9	13	2	-	-	-	1	10	10
POD6	3	6	15	5	1	-	-	-	3	8
POD7	-	5	11	11	2	-	-	-	-	3
POD8	-	-	6	11	10	-	-	-	-	-
POD9	-	-	-	7	10	-	-	-	-	-
POD 10	-	-	-	-	7	-	-	-	-	-

In the Conventional Group

In all 30 patients, the first dressing for recipient site, post STSG, was opened on 72 hours. The first 100% graft uptake was on POD6 for 1 patient (venous ulcer), followed by 3 patients on POD7, 10patients-POD8, 10patients- POD9 and 7patients-POD10.

Hence by POD8, in almost 50% of the patients, 100% graft uptake was seen followed by the remaining 50% of the patients who attained 100% graft uptake by POD9.

PRP Group

In all 30 patients, the first dressing for recipient site, post STSG, was done on POD2. The first 100% graft uptake was on POD3 for 4 patients, followed by 5patients-POD4, 10patients-POD5, 8patients-POD6 and 3patients-POD7.

Hence by POD5 50% of the patients had attained 100% graft uptake and by POD7 100% graft uptake for rest of the patients was noted.

Patients were kept for one more day after 100% graft uptake was noted and then were discharged.

Table 6: Uptake of Graft with Standard Deviation

	Conventional	PRP	
	Mean ± SD	Mean ± SD	P-Value
POD2	--	77.67±7.29	--
POD3	66.0±11.32	83.0±9.15	<0.001*
POD4	69.93±10.48	90.67±7.39	<0.001*
POD5	73.3±9.58	95.38±5.82	<0.001*
POD6	76.67±15.39	90.0±26.83	0.002*
POD7	84.0±8.90	100	<0.001*
POD8	92.07±7.70	100	0.090
POD9	97.41±0.04	--	--
POD10	100.00	--	--

Graft uptake in the PRP group was highly significant statistically when compared to the conventional group, with an average p value 0.001.

Table 7: Number of days of Hospital Stay

Conventional	PRP	Mean	P-Value
Mean ± SD	Mean ± SD	Difference	
No. of days of hospital stay (days)	18.3±6.44	14.8±3.65	3.5

Number of days of hospital stay in conventional group was 18.3±6.44 days and in PRP group was 14.8±3.65days. Mean difference was 3.5. P value (0.0121) was significantly higher in terms of shorter hospital stay in PRP group.

Table 8: Cost of Treatment

Conventional	PRP	Mean	P-Value
Mean ± SD	Mean ± SD	Difference	Value
Total Cost (In INR)	19067.5 ±12729.64	12224.33±5665.28	6843.17

The total cost of treatment (including total hospital stay, cost of antibiotics, cost of dressing material, cost of surgery including anesthesia, cost of sutures/staples in conventional group) in conventional group was 19067.5±12729.64 (INR) and in PRP group was 12224.33±5665.28 (INR). Mean difference in PRP was INR. 6843.17. P value (0.009) was significant.

PRP Group

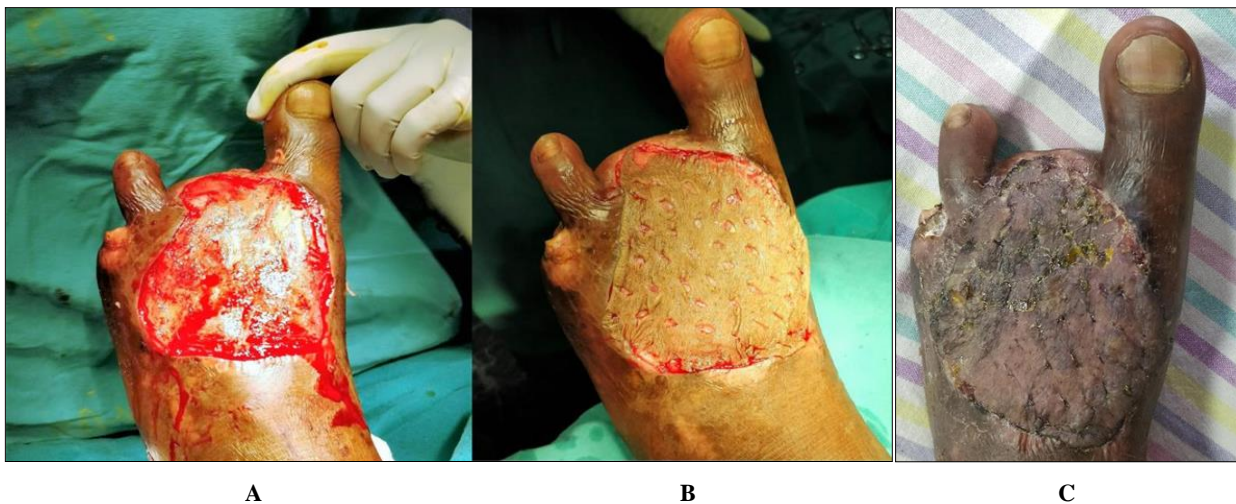


Fig 3: Diabetic Foot Ulcer a) Post debridement, pre-STSG b) Post STSG using topical PRP c) First Dressing (POD2)

Discussion

The present study was conducted in the Department of General Surgery, MNR Medical College and Hospital, Sangareddy from (18 months) January 2021 to August 2022 with a minimum follow-up of 3 months.

The study group of 60 patients with chronic leg ulcers of diabetic, venous and traumatic etiology were divided into two equal groups of 30 patients each in Conventional (sutures/staples) group and Platelet rich plasma (PRP) group. Both groups were identical in terms of age, sex, size of ulcer, presence of discharge pre- STSG and bacterial load at the time

of admission.

In the present study, pre-STSG pus culture swabs were taken, and the ulcers were treated according to the sensitivity. Daily debridement and dressings were done till wound bed was in healing stage and suitable for grafting. Three patients required negative suction vacuum dressings. Repeat pus culture swabs showed no growth in all patients before grafting. PRP was prepared using patient’s venous blood, in vacutainers containing an anticoagulant, which was then centrifuged at 1000rpm for 20minutes. Then the PRP (the clear supernatant layer) was extracted in 5cc syringes and kept ready.

Wound bed was then debrided, edges were freshened, wash was given with saline and betadine, following which PRP was topically applied. Applying PRP on wound bed prior to application of skin graft causes hemostasis and provides a sticky surface for instant adherence of graft. Dressing was done with bactigras, and plaster of Paris was applied if immobilization was necessary. Postoperatively, dressings were done daily. Post operatively, age, sex, bacterial load were all statistically similar but post-operative complications (hematoma and seroma formation), graft uptake, cost of treatment and number of days of hospital stay which were also compared and showed high statistical significance following the PRP group. Follow-up period was up to 3 months after discharge.

Time of first dressing and complications

In the present study, first dressing was done after 72 hrs in the conventional group and after 48hrs in the PRP group. In the PRP group, a total of 18 patients (60%) were noted to have no discharge, 2 patients (6.67%) had hematoma and 10 patients (33.33%) had seroma. So, by the fifth post-operative day after grafting, 100% of the patients had no complications in this group.

In the conventional group, a total of 12 patients (40%) were noted to have hematoma, 16 patients (53.33%) had seroma and 2 patients (6.67%) had no active discharge. After 6 days of grafting, 50% of the patients had no complications in this group. Hematoma and seroma formation in the conventional group was more as that compared to the PRP group, where PRP group had a p Value of <0.002 on POD2 and 0.001 on the rest of the post-operative days, which is highly significant.

In the study conducted by Veena P Waiker and Shanthakumar Shivalingappa (2015) ^[10], out of the 100 patients, 94% of patients underwent first graft inspection on the tenth day, in the PRP group and grafts were found to be dry, non- edematous. Only 4% of the patients in PRP group had hematoma under the graft and required secondary grafting compared to 15% in the control group.

Time of complete graft uptake

In the present study, in the PRP group, by POD5 50% of the patients had attained 100% graft uptake and by POD7 100% graft uptake for rest of the patients was noted. In the conventional group, by POD8, in almost 50% of the patients 100% graft uptake was noted followed by the remaining 50% of the patients who attained 100% graft uptake by POD9. This was highly significant with a p value of <0.001.

In the study conducted by Thimmanahalli GU, Kumar M (2019) ^[9], out of the 100 patients, 94% of patients, during their first graft inspection, had 100% graft uptake including diabetic patients. There was instant adherence of skin graft to wound bed within seconds in all 100 patients in the PRP test group as compared to control group in whom instant adherence did not happen.

Cost

In the present study, the total cost of treatment (including total hospital stay, cost of antibiotics, cost of dressing material, cost of surgery including anaesthesia, cost of sutures/staples in conventional group) in conventional group was 19067.5±12729.64 (INR) and in PRP group was 12224.33±5665.28 (INR). Mean difference in PRP was INR.6843.17. P value (0.009) was significant.

In the study conducted by Veena P Waiker and Shanthakumar Shivalingappa (2015) ^[10], Prabhu R, Vijayakumar C (2018) ^[11]

the overall expenditure was 8 times more in the control group when compared to PRP group which was spent on staples/sutures, operating time, change of dressings, secondary grafting and hospital stay.

Hospital Stay

In the present study, Number of days of hospital stay in conventional group was 18.3±6.44 days and in PRP group was 14.8±3.65 days. Mean difference in PRP was 3.5. P value (0.0121) was significantly higher in terms of shorter hospital stay in PRP group.

In the study conducted by Veena P Waiker (2015) ^[10] and Prabhu R, Vijayakumar C (2018) ^[11], Hasiba-Pappas SK (2022) ^[12], Chen J *et al.* (2020) ^[13], Moster M *et al* (2022) ^[14] the mean hospital stay was 10 days compared to the control group which was 16 days. The difference in all the objective parameters between controls and PRP groups were statistically significant ($P<0.05$).

Conclusion

The goal of our study was to determine the efficacy of the use of PRP, in terms of lesser post-operative complications, faster graft uptake, shorter duration of hospital stay and over all lower cost of treatment. Many studies have been conducted with PRP, but only a few have compared it to the conventional method of graft fixation. Hence due to limited comparison in other studies, need is for more experimentation and confirmation of the better fixative properties of Platelet-Rich Plasma (PRP).

PRP is superior to the conventional method of graft fixation in minimizing the post-operative complications. Uptake of the graft is seen must faster and better in patients with PRP fixation. Duration of hospital stay was shorter in patients with PRP fixation It was also seen that the overall cost of treatment was cheaper with PRP.

Conflict of Interest: None.

Funding Support: Nil.

References

1. Bhat S. SRB's Manual of Surgery. Jaypee Brothers Medical Publishers; c2019. p. 14-29.
2. Marinovic Kulisic S, *et al.* Differential Diagnosis of Chronic Leg Ulcers. *Phlebology*. 2013;20(3):155.
3. Jarbrink K, Ni G, Sonnergren H, Schmidtchen A, Pang C, Bajpai R, Car J, *et al.* Prevalence and incidence of chronic wounds and related complications: A protocol for a systematic review. *Systematic Reviews*. 2016;5(1):152.
4. Shah JB. The History of Wound Care. *The Journal of the American College of Certified Wound Specialists*. 2011;3(3):65-66.
5. Fonder MA, *et al.* Treating the chronic wound: a practical approach to non-healing wounds and wound care dressings. *Journal of the American Academy of Dermatology*. 2008;58(2):192.
6. Bhattacharya S. Wound healing through the ages. *Indian Journal of Plastic Surgery*. 2012;45(2):172-179.
7. Dionyssiou D, Demiri E, Foroglou P, Cheva A, Saratzis N, Aivazidis C, *et al.* The effectiveness of intralesional injection of platelet-rich plasma in accelerating the healing of chronic ulcers: an experimental and clinical study. *International Wound Journal*. 2013;10(4):397-406.
8. Sarvajnamurthy S, Suryanarayan S, Budamakuntala L, Suresh DH. Autologous platelet-rich plasma in chronic

- venous ulcers: study of 17 cases. *Journal of Cutaneous and Aesthetic Surgery*. 2013;6(2):97-99.
9. Thimmanahalli GU, Kumar M. Efficacy of autologous platelet-rich plasma over control mechanical fixation methods in split-thickness skin grafting. *International Surgery Journal*. 2019;6:108-113.
 10. Waiker VP, Shivalingappa S. Comparison between conventional mechanical fixation and the use of autologous platelet-rich plasma in wound beds prior to resurfacing with split-thickness skin graft. *World Journal of Plastic Surgery*. 2015;4(1):50-59.
 11. Prabhu R, Vijayakumar C, Chandra AA, Balagurunathan K, Kalaiarasi R, Venkatesan K, *et al*. Efficacy of homologous platelet-rich plasma dressing in chronic non-healing ulcers: an observational study. *Cureus*., 2018, 10(2).
 12. Hasiba-Pappas SK, Tuca AC, Luze H, Nischwitz SP, Zrim R, Geißler JC, *et al*. Platelet-rich plasma in plastic surgery: a systematic review. *Transfusion Medicine and Hemotherapy*. 2022;49:129-142.
 13. Chen J, Wan Y, Lin Y, Jiang H. The application of platelet-rich plasma for skin graft enrichment: A meta-analysis. *International Wound Journal*. 2020;17:1650-1658.
 14. Moster M, Bolliger D. Perioperative guidelines on antiplatelet and anticoagulant agents: 2022 update. *Current Anesthesiology Reports*. 2022;12:286-296.

How to Cite This Article

Lakshitha B, Aishwarya AS, Pisupati SS. Comparison of efficacy of topical platelet-rich plasma in healing of split thickness skin grafting versus conventional split thickness skin grafting. *International Journal of Surgery Science*. 2024;8(3):40-46.

Creative Commons (CC) License

This is an open-access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.