



ORIGINAL RESEARCH PAPER

General Surgery

A STUDY ON ROLE OF SPLIT SKIN GRAFT IN DIABETIC FOOT ULCERS

KEY WORDS: Diabetic foot ulcers, split skin graft

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ABSTRACT

BACKGROUND: Diabetic foot ulcer is one of the common complications seen in patients with diabetes mellitus. The diabetic foot is defined as a group of syndromes in which neuropathy, ischaemia and infection leading to tissue breakdown producing ulcer. Most diabetic wounds are slow healing and takes a long period for healing by conservative methods. So this study was conducted to know the effect of split skin graft in promoting the wound healing in diabetic foot ulcers and thereby reducing the hospital stay of the patients. A prospective study was conducted among 60 patients. They were treated with split skin graft healing was observed. About 80% of people got healed in 2-3 weeks of time. Remaining 20% of them and wound took 4-5 weeks to heal. 15% of them had donor site infections. Average length of post-operative hospital stay was around 17 days.

METHODS: A prospective study was conducted in 60 patients with diabetic foot ulcers who were admitted in department of general surgery at Government medical college, omandurar estate during the period of January 2018 to February 2019.

RESULTS: With split skin graft 80% of patients cured in 2-3 weeks whereas the remaining 20% of patients were cured in 4-5 weeks of time. 15% of them showed donor site infections.

CONCLUSION: The major goal of this study is to know the role of split skin graft in improving the healing time of diabetic foot ulcers thereby reducing the morbidity and the length of the hospital stay.

INTRODUCTION

Patients with uncontrolled diabetes are more prone for complications, the most common is foot ulcers. It's not only difficult to treat but it causes major morbidity thereby posing economic burden for the patients. The most common management is wound debridement and regular dressing. Split skin graft for patients with large defects are advised since it promotes wound healing. Thus it improves the quality of life for the patients and also reduce the economic burden of the patients. This clinical study is done to know the effect of split skin graft in healing of diabetic foot ulcers and the duration of hospital stay of the patients during post-operative periods. Donor site wound infections were also assessed.

AIM

To study the effect of split skin graft in diabetic foot ulcers healing and length of hospital stay

METHODS

A prospective study was conducted on 60 diabetic patients admitted with diabetic foot ulcer in department of general surgery in Government medical college, omandurar estate, Chennai during the period of 15 January 2018 to 15 February 2019. Healing time, post-operative infection, recurrence, donor site infections were analysed.

METHODS OF COLLECTION OF DATA

Detailed history taking, physical examination, routine examination, specific investigations and choosing patients undergoing split skin graft.

INCLUSION CRITERIA

All patients with diabetes mellitus suffering from foot ulcers and infections of all age group, incidental diagnosis of diabetes mellitus on admission with foot ulcers, were included in the study.

EXCLUSION CRITERIA

Patients with foot ulcers who were not diabetic and foot ulcers due to other etiology were excluded.

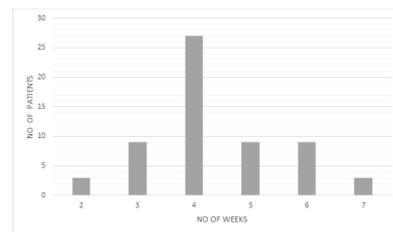
RESULTS

The duration of hospital stay ranged from 8 days to 5 weeks with an average of 17 days. Among the study group 80% were cured with single split skin graft procedure with graft take of more than 95%, with a duration of 2 to 3 weeks. Of the remaining 20% of patients took 4 to 5 weeks of time to heal with graft take less than 95% but healed without any surgical intervention. Donor site infections was found to be 15% and all the infections were treated conservatively.

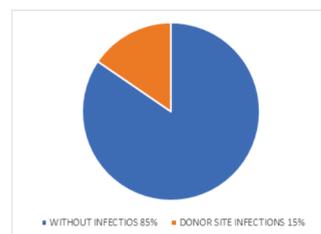
TABLE 1: RESULTS OF SPLIT SKIN GRAFT

PERCENTAGE OF GRAFT TAKEN	DURATION IN WEEKS	PERCENTAGE OF PATIENTS
>95	2-3	80
< 95	4-5	20

TABLE 2: DURATION OF HOSPITAL STAY



DONOR SITE INFECTIONS



DISCUSSION

In this prospective study conducted in 60 patients with diabetic foot ulcers, who have undergone split skin graft, we were able to observe the following results. The percentage of graft taken, the length of hospital stay in post-operative period and donor site infections were assessed. Ramanujam et al showed in their study that the duration of wound healing was between 5.1 to 6.5 weeks. It was found that 80% of patients showed more than 95% of graft take in 2-3 weeks of time. Remaining 20% of patients showed less than 95% of graft take in period of 4-5 weeks. According to the literature the average hospital stay in post-operative period was 12 days. In this study the average stay in the hospital in post-operative period was about 17 days. According to the Anderson et al study the donor site infection was 4%, in this study it was 15% of the patients showed donor site infections who were treated conservatively without any surgical interventions.

CONCLUSION

As we know the prevalence of the diabetic mellitus is increasing

world wide and the people developing complications have become more common. The most common complication is diabetic foot ulcer which causes major morbidity and economical burden for the patients. So its important to treat these ulcers at the early stage to avoid complications and to reduce the hospital stay of the patients. One such procedure is this split skin graft which has shown to reduce the hospital stay by promoting early wound healing. So its not only for the patients but also it would also benefit the hospitals. Diabetic patients at risk for foot lesions must be educated about risk factors and the importance of foot care including the need for self inspection and surveillance ,monitoring foot temperature ,foot hygiene ,use of proper footwear, good diabetes control and prompt recognition and early treatment by the professional.

REFERENCES

1. Armstrong DG, Lavery LA, Harkless LB. Treatment based classification system for assessment and care of diabetic foot. *J Am Podiatr Med Assoc* 1996;86:311-6
2. Bailey TS, Yu HM, Rayfield EJ. Patterns of foot examination in a diabetic clinic. *Am J Med* 1985;78:371-4.
3. Brike JA, Sims DS. Plantar sensory hreshold in the ulcerative foot. *Lepr Rev* 1986;57:261-7.
4. Caputo GM, Cavanagh PR, Ulbrecht JS, Gibbons GW, Karchmer AW. Assessment and management of foot disease in patients with diabetes. *N Engl J Med* 1994;331:854-60.
5. Diamantopoulos EJ, Haritos D, Yfandi G et al. Management and outcome of severe foot infections. *Exp cline Endocrinol diabetes* 1978;106:34
6. Ramanujam CL, Stapleton JJ, Kilpadi KL, Rodriguez RH, Jeffries LC, Zognis T. Split-thickness skin grafts for closure of diabetic foot and ankle wounds; a retrospective review of 83 patients. *Foot Ankle Spec*.2010;3:23140
7. Wilson JA, Clark JJ. Obesity: impediment to postsurgical wound healing. *Adv Skin Wound Care*.2004;17(8):426-35.
8. Ramanujam CL, Han D, Fowler S, Kilpadi K, Zgnois T. Impact of diabetes and comorbidities on split-thickness skin grafts for foot wound. *J Am Podiatr Med Assoc*.2013;103:223-32.