Wound management of partial-thickness skin-graft donor areas with a collagen and alginate dressing (Fibracol®): findings in 35 patients

Curativo da área doadora de enxerto de pele parcial com curativo de colágeno e alginato (Fibracol®): uma experiência de 35 pacientes

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ABSTRACT

Introduction: The objective of this study was to report our findings with a collagen and alginate dressing (Fibracol®) used to cover donor areas of partial-thickness skin grafts. Method: We retrospectively evaluated the medical records of 35 patients in whom Fibracol® was used on donor areas. The routine used to manage the donor area is as follows: The area is covered with one or more units of Fibracol®, followed by application of a waterproof film. After three or four days, the dressing is removed and the area cleaned gently with saline and gauze; the area is dressed again if necessary. The mean patient age was 25.52 years (range, 1–65 years). Results: The thigh was used as the donor area in 29 patients, the arm in 2, the leg in 4, and the trunk in 3. Two patients had more than one donor area. The mean time needed for epithelization was 4.51 days (range, 3-8 days). The Pearson correlation coefficient value correlating age and time of epithelization was -0.0755; $p = 0.6685$. None of the patients experienced an infection in the donor area. The ideal dressing for the donor area of split-thickness skin grafts would have multiple characteristics including low price, good patient comfort, low infection rate, and a short epithelization period. Conclusion: The authors report a positive experience with the use of Fibracol® in 35 patients over a period of 22 months. The mean epithelization period was 4.51 days, shorter than that in the majority of published studies, and had no correlation with the age of the patient.

Keywords: Burns; Grafts; Dressing.
INTRODUCTION

The treatment of burn patients usually includes the application of partial-thickness skin grafts. In this procedure, the physician creates a donor site, which can cause more postoperative morbidity than the burn itself. There is no consensus on the most suitable dressing for this area.

OBJECTIVE

The objective of this study was to report our 2-year experience with the use of a collagen and alginate dressing (Fibracol®) to cover donor areas of partial-thickness skin grafts in burn patients.

METHOD

We retrospectively studied the medical records of 35 burn patients in whom Fibracol® was used to cover donor areas of partial-thickness skin grafts. All the burn patients were operated on by the same surgeon (LSM) between May 2012 and March 2014.

The routine used to manage the donor area is as follows: The area is covered with one or more units of Fibracol®, followed by application of a waterproof film. After three or four days, the dressing is removed and the area cleaned gently with saline and gauze; if deemed necessary, the area is again covered with a dressing.

RESULT

Of the 35 patients, 26 were men. The mean age was 25.52 years (range, 1-65 years). The thigh was used as the donor area in 29 patients, the arm in 2, the leg in 4, and the trunk in 3. Two patients had more than one donor area.

The mean time needed for epithelization was 4.51 days. The R Pearson correlation coefficient between age and time of epithelization was -0.0755, with p = 0.6685. None of the patients experienced an infection in the donor area.

None of the patients experienced an infection in the donor area.

Figures 1 to 4 illustrate the care of a donor area on the arm of a patient. Figures 5 to 8 illustrate the progression of the donor area of the thigh of another patient.
DISCUSSION

The ideal dressing for the donor area of partial-thickness skin grafts would have multiple characteristics including low price, good patient comfort, low infection...
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rate, and a short period for epithelization. Normally, non-adherent dressings are used, but adherent dressings\(^2\) and other materials including honey\(^6\) have been used to achieve these objectives.

Fibracol\(^8\) is composed of collagen (90%) and alginate (10%). It combines the structural support of collagen and the gel-forming properties of alginate in a soft, comfortable, and absorbent dressing. A few studies have been published on the subject.

Higgins et al., in 2012, compared an alginate dressing (Kaltostat\(^R\)\(^8\)) with a polyurethane dressing (Allevyn\(^TM\)\(^7\)) and concluded that Kaltostat\(^R\)\(^8\) was superior\(^8\).

Kaiser et al., in 2013, evaluated an alginate dressing with polyurethane film and paraffin gauze in a well-designed prospective study. They found no difference between the two dressings in terms of pain and time of healing\(^7\). An explanation for the longer healing times in their study (mean of 18.1 days for the alginate group and 15.4 days for the paraffin gauze group) in comparison with our patients (mean, 4.5 days) is probably owing to thicker skin grafts. Uraloğlu et al., in 2014, published an experimental study that showed rapid and good-quality epithelialization with alginate\(^9\).

CONCLUSION

The authors report a positive experience with the use of Fibracol\(^8\) in 35 patients over 22 months. The epithelization time was 4.51 days, shorter than that in most published studies, and had no correlation with the age of the patient.

REFERENCES


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