DermaMatrix Acellular Dermis.

A case study on root coverage.

Case Study

SYNTHES® CMF

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DermaMatrix Acellular Dermis. A case study on root coverage.

Introduction

Using acellular dermis for root coverage is a convenient and less traumatic solution to treating root coverage defects in patients with localized gingival recession. This case demonstrates the use of DermaMatrix Acellular Dermis for root coverage.

Patient profile

A 47-year-old female was referred by her general dentist for a consultation for gingival recession. The patient experienced chronic, progressive attachment loss over the past 5 years.

Preoperative planning

Site classification and diagnosis are crucial for proper treatment planning and expectations.

The patient presented with a Miller[1] Class 1 defect on teeth 6 and 7, with approximately 3 mm of pathologic root exposure which did not extend past the mucogingival junction (Figure 1). There was no loss of interproximal tissue as a result of healthy interradicular bone levels. When utilizing acellular dermis, a wide band of keratinized tissue (> 2 mm, as present in this case) allows for proper tissue management, healing and coronal flap adaptation. Probing depths were within normal limits. The combination of these factors provided an ideal scenario for the use of acellular dermis; excellent root coverage can be expected when treating a Miller Class 1 or Class 2 defect.

In the absence of an adequate band of keratinized tissue, dermal allograft materials are not an ideal choice. Autogenous grafting continues to be the gold standard for root coverage and increasing the width of keratinized tissue.

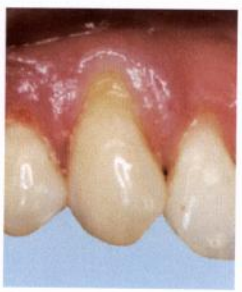

Figure 1

Surgical treatment

A double-sided, full radius, mini 69 micro surgical blade was used to prepare the site. The papilla was split, leaving a bleeding interproximal for optimal revascularization. The flap was extended one tooth mesial and one tooth distal to the defect, for coronal coverage of the dermis, to optimize blood supply to the graft (Figure 2). The tissue was released with a split thickness flap, retaining the periosteum to maintain vascularity to the site. Blunt dissection was done with a periotome, for deep access into the vestibule. The root surface was flattened to the cementoenamel junction (CEJ). The root surface was prepared with EDTA to condition the dentinal tubules for cellular bridging. Peridex-soaked gauze was used to saturate the root surface before conditioning and to provide bacterial decontamination.

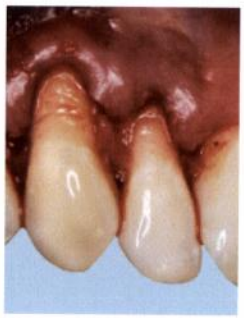

Figure 2

The dermis

A 1 cm x 2 cm piece of thin (0.4 mm–0.8 mm) DermaMatrix Acellular Dermis (Figure 3) was hydrated in sterile saline prior to the procedure (typical hydration time is 3 minutes or less). Although the full 10 mm height of dermis was used, the product may be trimmed after hydration with a #15 blade on a tongue depressor.

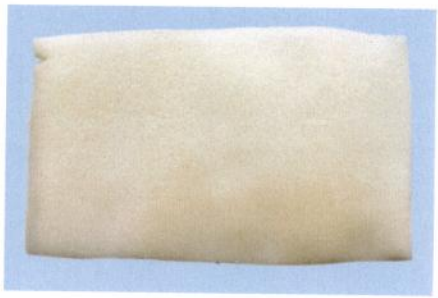

Figure 3

1. P.D. Miller, Jr. "A classification of marginal tissue recession." *Int J Periodontics Restorative Dent.* 5(2):9–13. 1985.

An ideal matrix placement covers several millimeters of apical bone from interproximal to interproximal, providing ample blood supply from the periosteum (Figure 4). The dermis also hydrates intraorally at the bleeding site.

The dermis was secured with a 5.0 gut resorbable interproximal sling after placement and tied on the mesial of tooth # 6.

The overlying tissue was then passively positioned coronally to cover the graft and secured using a sling suture with a 5.0 PGA long-term resorbable suture (Figure 5). The site will be under tension for an extended period of time postoperatively; a suture with strong tensile strength and passive flap closure is required for optimal healing. Firm pressure was applied in a coronal direction for 5 minutes.

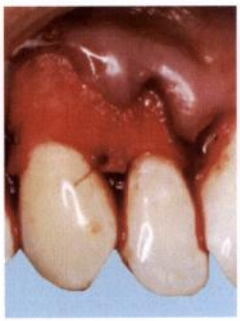

Figure 4

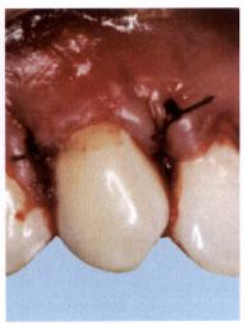

Figure 5

Postoperative management

The patient was instructed to swab with Peridex for 6 weeks. After 2 weeks, the patient was instructed to begin gentle brushing. Antibiotics were prescribed (Amoxicillin 500 mg) to begin 1 day prior to the procedure. A Medrol dose pack is often prescribed when using dermal allografts to reduce swelling. The patient was instructed to begin Motrin 800 mg prior to the procedure.

Follow-up

The patient was seen at 2 weeks, 4 weeks, 3 months, and 6 months postoperative.

Both 3- and 6-month postoperative exams showed excellent tissue stabilization, aesthetics and 100% root coverage, with no inflammatory response (Figures 6 and 7).*

Discussion

DermaMatrix is an excellent choice for Miller Class 1 and 2 recession defects. The key to success is diagnosis, proper surgical technique, passive flap closure, and effective home care.

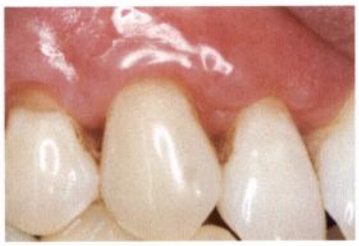

Figure 6. 3 months postoperative

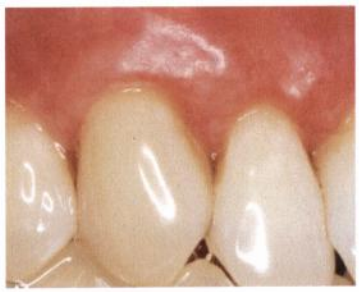

Figure 7. 6 months postoperative

"DermaMatrix is easy to handle, quick to hydrate, is pliable and biologically compatible for the needed vascularization for optimal healing. I use DermaMatrix routinely."
– David P. DiGiallorenzo, DMD

*Results are not necessarily indicative of results in other cases. Results in other cases may vary.

DermaMatrix Acellular Dermis

Common sizes for intraoral applications

DermaMatrix Acellular Dermis

Thin tissue	Size (cm)	Thickness (mm)	Thickness (inches)
010101	1 x 1	0.4–0.8	0.016–0.031
010102	1 x 2	0.4–0.8	0.016–0.031
010104	1 x 4	0.4–0.8	0.016–0.031
010202	2 x 2	0.4–0.8	0.016–0.031
010204	2 x 4	0.4–0.8	0.016–0.031
Thick tissue			
011101	1 x 1	0.8–1.7	0.031–0.067
011102	1 x 2	0.8–1.7	0.031–0.067
011104	1 x 4	0.8–1.7	0.031–0.067
011204	2 x 4	0.8–1.7	0.031–0.067

Additional sizes may be available, please contact your Synthes Sales Consultant for details. Please refer to package insert for a complete list of indications, contraindications, adverse effects and precautions.

Clinician profile

David P. DiGiallorenzo, DMD

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