**ABSTRACT**

**Objectives**

To describe a novel approach of surgical management of septal ulceration using an extracellular matrix scaffold.

**Study Design**

Case series with chart review.

**Methods**

3 patients underwent our novel method of repair through a closed, endonasal approach for nasal septal ulceration.

**Results**

2 out of 3 patients demonstrated complete closure of their septal ulceration defects with symptomatic relief, consistent with an 66.67% success rate. The other patient has a remaining 5 x 5mm ulceration with significant improvement of his symptoms. None of the patients required further surgical intervention.

**Conclusions**

Septal ulceration is a mucosal involving the mucous membranes of the nasal septum. Patients often complain of nasal irritation, crusting, and epistaxis. Currently, there is no gold standard for the treatment of septal ulcerations. Currently described therapies include local debridement, septal dermoplasty, septal flap reconstruction, and cadaveric dermal graft repair but none have been shown to produce consistent improvement of symptoms. Our method described here is a suitable approach for the repair of a unilateral partial septal mucosal defect using an extracellular matrix scaffold (MatriStem® Wound Care Matrix, ACell, Inc).

**CASE SERIES**

Three patients with persistent septal ulceration were seen in a tertiary care medical center. All three patients had failed several years of conservative and surgical measures and were ultimately repaired with ACell’s MatriStem® Wound Care Matrix. These were the first reported cases of an extracellular matrix scaffold as a treatment for chronic septal ulceration.

**METHODS**

The first two patients underwent wide local excision of the ulcerated tissue bed with repair using an extracellular matrix scaffold in the operating room while the third patient was treated in the office. The ulcers were debrided of weak mucosa with mastoid curettes to reach bleeding tissue which might serve as a good recipient bed.

Another technique was described by Bernstein to repair a large mucosal and perichondrial defect from Moh’s surgery. A free graft of nasal mucosa was harvested from the ipsilateral inferior turbinate. The primary morbidity of this approach relates to donor site crusting, bleeding, bone exposure, and removal of superficial turbinate mucosa. To avoid donor site morbidity, Mirza used AlloDerm™ (acellular human dermal allograft) for repair of partial and total nasal septal mucosal defects. 4 AlloDerm™ is processed from human allograft skin and is immunologically inert. The dermal matrix provides a template for the patient’s own fibroblasts and endothelial cells to repopulate and revascularize the area. The senior author had trialed AlloDerm for septal ulcer repair as well and found the results unsatisfactory, therefore another repair method was sought out.

Currently, there has been no report of using an extracellular matrix scaffold as a treatment for chronic septal ulceration. ACell’s MatriStem® Wound Care Matrix is a naturally occurring bioscaffold derived from porcine tissue. The MatriStem sheet is designed to be placed into a wound to be resorbed and later replaced with new native tissue from the host. In our case, the MatriStem® Wound Care Matrix serves as a scaffold for the migration of native respiratory epithelium across the septal defect and is a suitable method for the repair of partial thickness ulcers. The MatriStem® Wound Care Matrix provides a reliable scaffolding for mucosal healing after debridement of septal ulcers. This novel approach for septal ulcer repair should be considered for patients who have failed conventional management.

**CONCLUSION**

The use of extracellular matrix scaffold provides the nasal septum with a framework for the ingrowth of healthy mucosa over ulcerated or traumatized areas. We recommend scraping the ulcer to obtain a bleeding bed. The Acell can be secured with Vicryl or non-absorbable suture material and should be covered with silastic for perhaps three weeks to promote proper healing. Septal ulcers can be healed bringing great symptomatic relief to patients.

**REFERENCES**