

CASE REPORT

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Surgical management of vaginal suburethral mesh erosion with ultra-thick amniotic membrane augmentation

Magdalene Karon, Cameron Scheitzach

ABSTRACT

Introduction: The transvaginal mesh sling is a primary consideration for urinary stress incontinence. However, the mesh is sharp and can erode through the vagina mucosa, making intercourse painful for both partners. Proximity to the urethra can also contribute to urethral and urinary infections which complicates the healing process of the open wound area. The exposed mesh necessitates resection with debridement of surrounding tissue. Primary closure may be difficult and cause fibrosis. Amniotic membrane is known to have anti-inflammatory and anti-scarring properties, which may facilitate closure and prevent post-surgical healing delays. Herein, we evaluate the adjunctive use of ultra-thick amniotic membrane (AM) to augment the surgical repair site for a complex mesh exposure.

Case Report: A 50-year-old Caucasian female (gravida 2, para 2) presented with vaginal mesh exposure (4 mm by 2 mm by 5 mm) from a transvaginal sling, placed approximately a year ago for stress urinary incontinence. The chief complaints were pain, bleeding, and dyspareunia. The patient underwent transvaginal excision of the exposed mesh and removal of neighboring scar and non-viable tissue. The vaginal defect with suture and adjunctive ultra-thick AM was incorporated into the closure. At one month post-op, the operative site was completely covered with vaginal mucosa and she did not have pain, bleeding, symptoms of prolapse or urinary incontinence. Six months later, the patient had no complaints.

Conclusion: This case report demonstrates the utilization and benefits of using ultra-thick AM augmentation in the setting of a vaginal mesh erosion complication.

Keywords: Amniotic membrane, Mesh complications, Mesh erosion, Surgical revision

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INTRODUCTION

Transvaginal meshes for pelvic organ prolapse were ordered to be removed from the United States market by the FDA in April 2019. Still, transvaginal mesh sling remains in use for correction of stress urinary incontinence in the United States. The mesh sling can successfully correct urethral hypermobility and, thus, stress urinary incontinence; however, complications that arise from erosion can be harmful to surrounding structures [1]. Thus, the tissue has difficulty healing and warrants resection, debridement of surrounding non-viable tissue, and surgical closure [2]. The surgical repair of mesh erosion can be complicated by lack of viable surrounding tissue, constant presence of vaginal flora, and co-morbidities for poor wound healing [3]. In such cases, utilization of adjunctive treatments or surgical techniques to facilitate the closure of the defect would be beneficial. One such adjunctive treatment is amniotic membrane (AM), which may act as a protective barrier but is also known to have regenerative properties such as anti-inflammatory and anti-scarring properties. Accordingly, AM has been used in various clinical applications, such as

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dermal and ocular wounds, to help promote accelerated and regenerative healing. While the AM originates from the obstetrical branch of our specialty, its expanding multidisciplinary applications underscore its potential to significantly contribute to the gynecological domain as well. Herein, we evaluate the adjunctive use of ultra-thick AM to augment the surgical repair site for a complex mesh exposure.

CASE REPORT

A 50-year-old Caucasian female (gravida 2, para 2) presented with vaginal mesh exposure from a transvaginal sling, placed approximately a year ago for stress urinary incontinence. The chief complaints were pain, bleeding, and dyspareunia. Examination revealed an exposed mesh defect that was 4 mm by 2 mm by 5 mm.

Treatment If Relevant

The patient underwent transvaginal excision of the exposed mesh and removal of neighboring scar and non-viable tissue. The vaginal defect was closed with 4-0 poliglecaprone 25 suture (Monocryl; Johnson & Johnson, New Brunswick, NJ) and undyed poliglecaprone 25 suture. Adjunctive ultra-thick AM (Neox RT; BioTissue, Miami, FL) was incorporated into the tissue defect after the mesh was removed and oversewn with two layers of poliglecaprone 25 suture (Figure 1). Care was taken to avoid trauma to the urethra and its meatus.

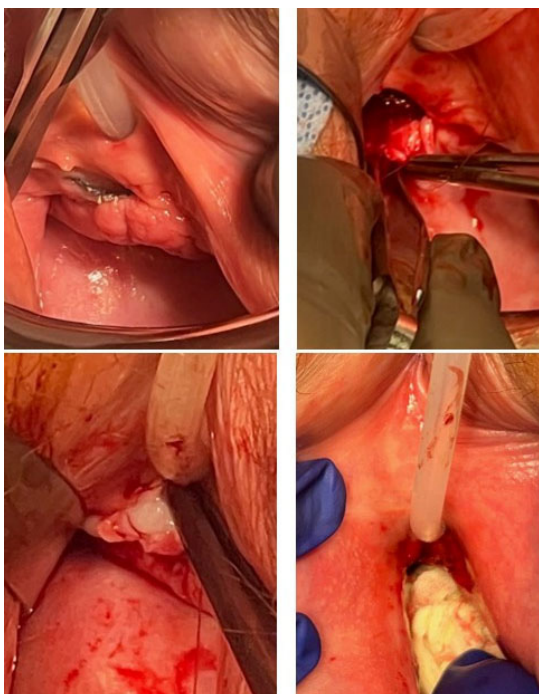


Figure 1: Patient presented with vaginal mesh exposure from a transvaginal sling and complaints of pain, bleeding, and dyspareunia. Repair was performed by transvaginal excision of the exposed mesh, removal of neighboring scar tissue, suture closure with adjunctive ultra-thick AM incorporated into the tissue defect, and iodoform packing.

Outcome and Follow-up

Patient's recovery was assessed at one month post-operatively and then via telehealth for follow-up, as she was in good health and did not have any complaints. At one month post-op, the operative site was completely covered with vaginal mucosa. There was no granulation tissue present, which can lead to bleeding and can be tender. She had no post-operative urethritis or cystitis. Only one preoperative prophylactic intravenous (IV) dose of cephalosporin was used. The patient was able to resume intercourse one month after the procedure. She did not have pain, bleeding, symptoms of prolapse or of urinary incontinence/leakage as before. Physical examination did not reveal scarring in the operative site and tissues had normal turgor. Six months later, the patient had no complaints.

DISCUSSION

Amniotic membrane is often considered to be a biological bandage when used in the clinical context of promoting wound healing by acting as a mechanical protective barrier and providing anti-inflammatory and anti-scarring properties to modulate the healing process. Numerous reports have also been published reporting the successful repair of vaginal fistula using placental/umbilical allografts [4, 5]. Posterior colporrhaphy and anal sphincteroplasty procedures have also been complemented with placental/umbilical allograft to help prevent frequent occurrence of this defect [6–9]. This case report adds to the available literature and demonstrates successful repair of a vaginal mesh erosion with adjunctive ultra-thick AM. Such technique may be considered in cases with extensive tissue damage or in patients with comorbidities for poor wound healing.

The patient expressed great satisfaction with the procedure, and felt relief to be free from the pain, bleeding, and dyspareunia that had previously affected her quality of life. She was also happy that the healing process occurred so fast, and no longer felt the need to return for follow-up visits as the operative site was completely covered without symptoms as early as one-month post-operation.

CONCLUSION

Vaginal mesh erosions and fistulas can be a healing challenge and sometimes require multiple procedures with recurrence of open wounds. Vaginal location makes healing challenging due to constant presence of vaginal flora and colon bacteria cross-contamination. This case report suggests complementing vaginal surgical repairs with amniotic membrane (AM) may promote healing without prolonged granulation reaction and excessive fibrosis.

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Author Contributions

Magdalene Karon – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation

of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Cameron Scheitzach – Analysis of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission

The corresponding author is the guarantor of submission.

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Consent Statement

Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest



Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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