Brief Communication

Conservative Surgical Management of Mesh Erosion Following Abdominal Sacrocolpopexy

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ABSTRACT

Abdominal sacrocolpopexy (ASC) provides global support to the prolapsed vault. Hence, it is one of the successful procedures done along with pelvic organ prolapse to prevent future vault prolapse. Mostly, the synthetic mesh is used for the ASC. As, it provides a better strength. However, synthetic meshes are associated with more complications as compared to the autologous graft. Mesh erosion is one of the furious complication with the synthetic meshes. Commonly, these eroded meshes become infected, thus requiring removal. Due to the formation of adhesion and fibrosis around the mesh even the removal of these meshes is difficult. In our institute, we have performed 50 adbominal sacrocolpopexy over the past 9 years. Four mesh erosions had occurred. Two meshes were infected, which responded well to the antibiotics and conservative surgical removal of the mesh.

KEYWORDS: *Mesh erosion, Sacrocolpopexy, vault prolapse*

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INTRODUCTION

Pelvic organ prolapse (POP) occurs when uterus or vaginal walls bulge into or beyond the vaginal introitus. It is a common occurrence, and 7%–19% of women receives surgical repair.[1,2] Abdominal sacrocolpopexy (ASC) is the most durable operation for advanced POP and serves as a criterion standard against which other operations are compared.[3] ASC involves attaching vaginal apex to sacral anterior longitudinal ligament. Autologous or allograft prosthesis (synthetic mesh) is used to provide more global support to the vagina.[4]

CASE REPORTS

Case 1

A 56-year-old P2L2 hypertensive female had procidentia. She was not diabetic and nonsmoker. In August 2015, she had undergone hysterectomy with ASC with posterior colpoperrineorrhaphy. A polyprolene mesh was used for ASC. Postoperative period was uneventful. She was discharged in satisfactory condition on day 5. One month later, she had spotting per vaginum, which was managed conservatively. Three months after, she had a foul-smelling discharge per vaginum. On examination, she was afebrile with stable vitals. Abdominal examination revealed no tenderness or rigidity. On per speculum examination, 3 cm × 2 cm mesh was seen protruding through the vault of the vaginal cuff. Vaginal swab for the culture grew *Klebsiella pneumonia.*

Case 2

A 35-year-old P4L4 had third-degree uterovaginal prolapsed with large cystocele and rectocele. She was nondiabetic, nonhypertensive, and nonsmoker. In April 2017, she underwent total abdominal hysterectomy with bilateral salpingectomy with ASC and posterior colpoperrineorraphy. A polypropylene mesh was used for ASC. Due to young age and massive vaginal support defects, she had increased chances of recurrent vaginal vault defects. Hence, ASC was performed. Postoperative period was uneventful. There was no history of fever or bleeding per vaginum. She was discharged satisfactory condition on day 5.

Three months after, the surgery patient had foul-smelling discharge per vaginum. On examination, she was afebrile

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with stable vitals. Abdominal examination revealed no tenderness or rigidity. On per speculum examination, 2 cm × 2 cm mesh was seen protruding through the right angle of the vaginal cuff with foul-smelling discharge [Figure 1]. A vaginal swab for culture grew *Eschirechia coli*.

Ultrasound was done in both patients, which showed no intra-abdominal collection. Antibiotics were started. After controlling, the local infection patients were taken for examination under anesthesia and proceed. Excessive mesh was cut and sent for culture sensitivity followed by repair of vaginal wall defect. Subsequently, antibiotics were continued, and oral estrogen 2 mg/day was started. On follow-up after 2 weeks, both patients were asymptomatic. Per speculum examination after 1 month showed a healthy vaginal vault with no redundant mesh seen [Figure 2].

Discussion

ASC is a commonly performed procedure for the surgical treatment of apical POP. As it provides global support to the vagina with a success rate of 78%–100%.[4,5] Complications associated with sacrocolpopexy are pelvic pain, dyspareunia, hematoma, mesh infection, and mesh erosion.

Mesh erosion usually presents with seropurulent or sero-sanguinous discharge per vaginum.[6] Timing of mesh erosion can vary from 2 to 33 months.[6] Our patients also presented at 1 and 3 months of the surgery. Rates of mesh erosion depend on the type of graft used. The median rate of synthetic mesh erosion is 3.4%. Incidence of mesh erosion with teflon mesh is 5.5%, 0.5% with polypropylene mesh and none with biologic grafts.[4] In our institute, we have performed 50 ASC (April 2009–February 2018). Four mesh erosions have occurred. Rate of mesh erosion in our institute is 8%. As only polypropylene mesh was used, so the impact of mesh type on rate of mesh erosion cannot be determined. Two patients were managed by oral estrogen. Two patients needed conservative surgical management and responded well.

The Colpopexy and Urinary Reduction Efforts trial was done to evaluate the risk factors for mesh erosion following sacrocolpopexy. The risk of mesh erosion was nearly four-fold higher if expanded polytetrafluoroethylene (ePTFE) mesh as compared to nonpolytetrafluoroethylene mesh. This can be due to small pores of ePTFE mesh, which prevents the in growth of the host tissue. Hence, if infected requires complete removal as macrophages cannot clear the microorganism in the mesh.[7]

Risk of mesh erosion was increased five-fold with concomitant hysterectomy. In these cases, mesh erosion is nearly always at the vaginal cuff. This can be due to increased bacterial contamination of mesh from an opened vagina during hysterectomy. Furthermore, poor healing at the new vaginal cuff due to the de-vascularizing effects of both vaginal cuff closure and mesh vaginal attachment sutures.[7]

Smoking, a modifiable risk factor was also associated with a five-fold increased risk of erosion. Microvascular vasospasm associated with smoking can lead to poor wound healing and vaginal mesh erosion.[8]

When only a small area of the graft is exposed without obvious infection, a trial of estrogen is frequently advocated to stimulate growth of the vaginal mucosa over the exposed area. There is minimal literature evaluating this approach although the available evidence only notes a 14% cure.[9]

Larger areas of exposed mesh and any erosion with an obvious inflammatory reaction limited to the vaginal attachment of mesh can be managed by local surgical

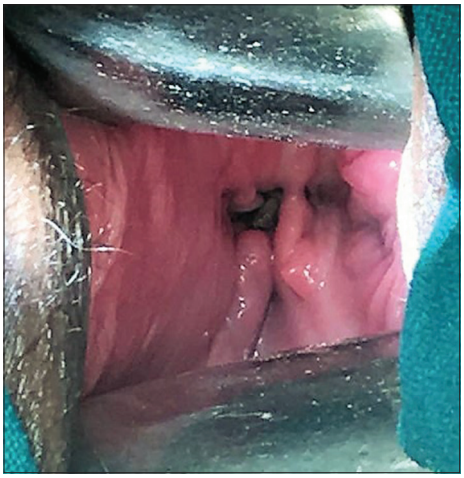

Figure 1: Mesh seen protruding through the right angle of the vaginal cuff

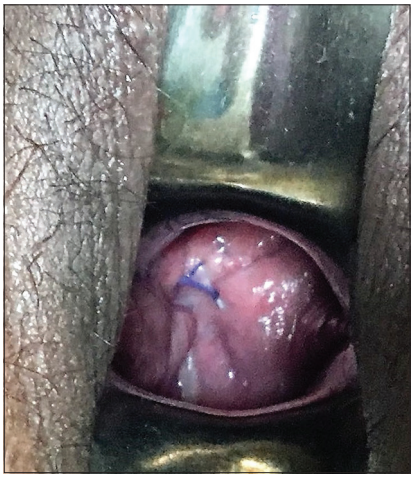

Figure 2: Postoperative completely healed vault

excision. This procedure has a success rate of 50%.[8] This approach has been used in our patients.

When the upper portion of the mesh is infected, removal of the entire graft is required through either a transvaginal or abdominal approach. Residual infected mesh after a failed partial excision requires a second excision generally through laparotomy, and usually represents a difficult surgical dilemma, as recurrent erosions are associated with chronic infection, sinus tracts, abscess, and fistula formation.[8,10]

Conclusion

Conservative surgical management is an effective treatment for vaginal mesh erosion following sacrocolpopexy.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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