Surgical Management of the Constricted or Obliterated Vagina

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Question 1:

The authors mention the use of vaginal estrogen for improvement of vaginal health prior to surgical intervention for vaginal constriction secondary to vaginal atrophy. Is there a dosing or formulation that the authors prefer to use and why?

Response from Dr. Gebhart and Dr. Schmitt:

Ideally, it is preferable to treat vaginal atrophy prior to operating for a vaginal constriction. The tissue quality improves and may help prevent postoperative adhesion formation. We prefer transvaginal estrogen cream over a pill or ring as it provides both estrogen replacement as well as a lubricated environment (both pre- and postoperatively). One gram transvaginally at bedtime is our preferred dosing regimen.

Question 2:

Laser treatment of malignant or premalignant conditions is one possible etiology for vaginal constriction. Are the authors aware of any patients with vaginal constriction secondary to laser rejuvenation treatments?

Response from Dr. Gebhart and Dr. Schmitt:

We have not encountered vaginal constriction as a result of laser treatment for malignant or premalignant conditions or as a result of laser treatment for vaginal rejuvenation. It is possible that because of more frequent surveillance and examinations in treating these conditions, constrictions may be avoided or managed early on and therefore do not become symptomatic. Laser therapy likely has a lower incidence of constriction or obliteration than more invasive therapies such as partial vaginectomy for malignant or premalignant disease. Frequent follow-up to prevent post-intervention constrictions is highly recommended when therapies are employed that may put the patient at risk for postoperative constriction or obliteration.
Question 3:
Post-radiation conditions can be difficult to treat due to poor vascularization that can lead to poor wound healing. What recommendations can the authors offer to help improve the success rate in these difficult cases?

Response from Dr. Gebhart and Dr. Schmitt:

Post-radiation effects on the vagina place the patient at risk for constriction or obliteration, whether it be intracavitary or external beam therapy. Radiation effects continue to place the patient at risk over time. Often, estrogen replacement may be contraindicated or considered risky if the patient has had an estrogen-sensitive malignancy. Use of a lubricated dilator during and after radiation therapy may help prevent constriction or contracture. If constriction or contracture does occur, often a vascularized tissue source (Martius flap, Singapore flap, Gracilis flap, etc.) is a good choice to consider for treatment as it brings in a well-vascularized tissue source to a “devascularized” environment. Frequent postoperative follow-up is paramount to assess healing and prevent postoperative constriction.

Question 4:
Is there a place for physical therapy with scar mobilization and stretching in the preoperative management of these patients?

Response from Dr. Gebhart and Dr. Schmitt:

Use of a dilator or physical therapy to stretch or “breakdown” the scarring is a good choice, but in our experience these approaches work best on minor and less dense scarring. If the scar or constriction is dense, pain often prevents the ability to manage constrictions this way and surgical intervention often is required. These modalities should be considered in the postoperative setting. We often initiate dilation immediately postoperatively to maintain the depth and diameter that has been achieved and would consider physical therapy once adequate healing has occurred.

Question 5:
Is there a place for the use of vascular grafts such as a Martius or bulbocavernous graft to improve healing and success of surgery for vaginal constriction?

Response from Dr. Gebhart and Dr. Schmitt:

As noted in Question 3, use of a vascularized graft can be very helpful in the post-radiation setting. They can also be useful when the vaginal dimensions have been compromised to the point that the vagina needs to be “opened” in a region and a vascularized flap rotated in. One can choose to rotate an epithelialized graft in that has skin as part of the graft (labial or Singapore graft) or to rotate in a fat graft (Martius, bulbocavernous) to fill a gap and then consider a small split-thickness skin graft or biologic graft to place over it. Keep in mind that these options are all compensatory and that function and cosmesis may not be perfect.
**Question 6:**
What considerations go into deciding in the use of a simple incision versus the use of a Z-plasty or other type of flap for repair of vaginal constriction?

**Response from Dr. Gebhart and Dr. Schmitt:**

Where is the constriction located? Is it small and isolated or does it involve an extended portion of the vagina? Has it been previously addressed and if so how? Simple approaches (simple incision with mobilization of surrounding tissues and advancement) often work well. If it is a posterior introital stenosis after episiotomy or perineorrhaphy, then often a simple vertical incision with mobilization of the posterior vaginal epithelium and advancement of that epithelium to the introital skin with closure in a horizontal manner works quite nicely. Z-plasty can be used in that setting also but can be a more challenging technical repair for surgeons who are not familiar with those techniques. That approach is also technically much more challenging in the upper vagina. In those settings, sometimes simple incision through the constriction is enough and can heal with secondary intention. Whatever technique is employed, the surgeon must be aggressive enough in the dissection and mobilization to achieve success. The area will naturally contract as it heals, and thus if the surgical intervention was not aggressive enough the contracture likely will reform.

**Question 7:**
How do you counsel the patient who wishes to have further children on the timing of repair and the route of delivery after successful repair of vaginal constriction?

**Response from Dr. Gebhart and Dr. Schmitt:**

If the successful repair of a constriction was simple and straightforward (usually a small, very distal constriction), then vaginal delivery can be considered. If the management of the former constriction was emotionally traumatic and required more extensive surgical intervention and has resulted in resolution for the patient, then avoidance of a vaginal delivery is likely warranted.