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Pelvic surgery controversies

Repair of a constricted or shortened vagina: What works?

Iatrogenic damage that does not yield to estrogen cream or dilators requires individualized surgery

Patients who want to be sexually active but suffer iatrogenic vaginal constriction or shortening, or both, are a surgical challenge. Their condition may require any of a variety of nonsurgical and surgical procedures to restore the ability to have gratifying sexual intercourse, and they may need considerable preoperative and postoperative counseling and management.

ment repair of prolapse, mesh sometimes needs to be removed because of erosion, extrusion, infection, or pain. Under such circumstances, closing or covering raw surfaces without creating vaginal constriction or shortening is at times a challenge.

Radiation therapy to the pelvis can result in vaginal shortening, constriction, and obliteration.

What is the basis of this problem?

The cause of vaginal shortening or constriction is most often surgical. Rarely is systemic disease or a localized condition, such as urogenital atrophy, responsible.

Prolapse procedures. Most procedures that result in vaginal shortening or constriction are ones performed to correct pelvic organ prolapse (POP), notably:

- posterior colpoperineorrhaphy with levatorplasty
- hysterectomy, whether abdominal or vaginal, during which too much of the upper vagina is taken with the cervix
- anterior and posterior colporrhaphy in which vaginal plication and trimming are performed overzealously.

Surgical mesh. More recently, as a variety of mesh materials are used to aug-

How do you avoid creating these problems?

Techniques to avoid vaginal shortening and constriction during vaginal reconstructive surgery include appropriate use of levatorplasty during posterior colpoperineorrhaphy. Although levatorplasty is, at times, the only way to decrease the size of a large vaginal hiatus, it should be used only in the distal third of the vagina. Levatorplasty above this area often creates vaginal constriction that results in postoperative dyspareunia.

Also, avoid **1)** overzealous trimming during anterior and posterior colporrhaphy and **2)** removing too much vagina at vaginal or abdominal hysterectomy.

Last, it is important that a patient who has undergone vaginal reconstructive surgery have a vaginal exam within 2 weeks after surgery. This will ensure

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that the vaginal incisions do not fuse, thus creating vaginal scarring, closure, and constriction.

How is correction approached?

Various modifications of a McIndoe procedure have been described for vaginal agenesis, but surgical correction of iatrogenic vaginal shortening or constriction is not well described; few case series exist in the literature. Consensus is lacking on what the minimal length of a vagina must be to preserve normal sexual function, and no standard exists in regards to either normal vaginal caliber or the relationship of the perineum and perineal body to the distal posterior vagina.

That being said, we have recognized the following correlates of a successful return to sexual function after surgery for vaginal constriction or shortening:

- The vagina should, at minimum, be 7 cm long to have the potential for normal function
- The vaginal opening should easily admit two fingers during examination
- The relationship of the posterior vagina and the perineum should be a perpendicular one, in which a built-up perineum attaches to the posterior vagina at the posterior fourchette at a 90° angle
- There should be no buildup of perineal skin above and beyond the posterior fourchette.

Is surgery the first intervention?

No. The patient should first undergo an attempt at nonsurgical management. This usually involves:

- vaginal estrogen cream in a postmenopausal patient
- appropriate utilization of a vaginal dilator.

For a dilator to be successful, it must be able to be advanced through a vaginal constriction. Dilation will, most likely,

be unsuccessful if the dilator reaches but does not pass through the constriction. Furthermore, dilation of a shortened vagina is rarely successful unless you are able to use a bicycle seat-type dilator. In this situation, you must, first, have patience and, second, apply a significant amount of vaginal estrogen cream in the hope of elongating the vagina.

What are options for surgery?

If nonsurgical management of vaginal constriction or shortening is unsuccessful or unsatisfactory, next choose an operation based on the needs of the individual patient. Some procedures involve placement of a skin graft or, possibly, other biologic material in the vagina to close over defects after constriction has been taken down or the vagina has been appropriately opened up. (It is fortunate that the vagina heals well by secondary intention; often, simply taking down the constriction and allowing the vagina to heal by secondary intention is successful.)

How is constriction released?

It is important to **cut through the constriction** and completely separate the tissue during the takedown of vaginal constriction. At this point, you need to decide whether to allow the separated vagina to heal by secondary intention or to cover the defect with a skin graft or other biologic material.

Whichever course you choose, **keep the vagina open** during the immediate postoperative period. Doing so may require placement of a vaginal stent, numerous postoperative exams, use of a vaginal dilator, or a combination of these measures.

When constriction rings are present in the face of ample vaginal length, you can **perform a Z-plasty**, in which the lines of a letter Z are incised transversely

FAST TRACK

Complete separation of tissue by cutting is necessary during takedown of vaginal constriction

or longitudinally across the constricted region and the two flaps that have been created from the Z are transposed. This maneuver releases constriction well.

When constriction extends distally, the procedure used is, basically, a reverse perineoplasty: Cut the constriction band longitudinally, undermine the vagina, and then sew it back transversely. This relieves the distal band.

In a severe case of vaginal constriction, thigh flaps that are left on their vascular pedicle can be brought into the vagina to fill the gap created by cutting through the constriction. Initial incisions are made laterally in the vagina (unilaterally or bilaterally, depending on the degree of constriction) and extended to the perineum/vulva. Measurements are made to determine the length and width

of flap(s) needed. The flaps are then mobilized, rotated into the defect(s), and sutured into place. This technique significantly increases the diameter of the vagina and can add length, if needed.

What about correcting shortening?

An iatrogenically shortened vagina presents the most challenging of cases. The vagina must be opened up at the cuff; ideally, this produces adequate length without having to enter the peritoneum. ■



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COMMENT & CONTROVERSY

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re-screening of those with a positive history or suggestive signs and symptoms, are standard of care for all primary care specialties, especially obstetrics and gynecology. Let us not turn back the clock to the days when we ignored this major health problem.

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Dr. Levy responds:

Focus was on the evidence

Dr. Coppin is certainly correct: An astute clinician can uncover significant conditions in asymptomatic patients at the time of routine screening. However, studies looking at outcomes in a population of screened versus unscreened patients for most of the interventions he discusses have not demonstrated any statistically significant improvement in health outcome in the screened population. For these large-scale studies to prove effectiveness, a condition would need to be prevalent in the population studied and easily discovered with the

screening intervention. As Dr. Coppin points out, the conditions he mentions may be quite challenging to diagnose with physical examination alone, and most are uncommon in the population we routinely see.

Nevertheless, the point of my article is that, indeed, there is value in an annual encounter with the patient. What each of us chooses to include in that encounter will vary, but Dr. Coppin and I are in agreement that screening should certainly encompass those evidence-based interventions discussed in the article. The addition of a careful and well-informed history and physical examination will at times add value to the standard protocols I described.

Dr. Stewart raises an important issue, which certainly deserves attention at every encounter with our patients—not just the annual well-woman examination—along with screening for substance abuse (especially alcohol), depression, and sexual dysfunction. These are areas in which Ob-Gyns have excelled.