

Pelvic Organ Prolapse among Older Women

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Pelvic organ prolapse is a common condition among women, and its prevalence increases with age. Pelvic organ prolapse is multifactorial in etiology but ultimately results from a disruption in the pelvic floor muscles and their attachments. Patients may be asymptomatic or may report a variety of pelvic floor symptoms. Prolapse can be easily diagnosed through clinical examination. Treatment involves simple observation, pessary, or surgery.

Key words: pelvic organ prolapse, older women, pessary, vaginal surgery

Introduction

Pelvic organ prolapse is a protrusion or herniation of pelvic structures such as the bladder, bowels, or uterus into the vaginal canal resulting from a weakness or damage to the pelvic support structures. As many as 50% of adult women over the age of 40 years are affected by pelvic organ prolapse,¹ and both the incidence and prevalence are known to increase with age.² Additionally, a woman carries an 11% lifetime risk of undergoing an operation for prolapse or urinary incontinence by age 80.³ The fastest growing segment of the U.S. population is age 85 years and older, and within the next 25 years, the number of women age 65 and over is expected to double.⁴ Accordingly, pelvic organ prolapse will be a progressively more common complaint among women, resulting in an increased need for pelvic floor dysfunction services. Although not a life-threatening condition, pelvic organ prolapse can cause distressing pelvic floor symptoms and may lead to a decreased quality of life and withdrawal from social activity.^{5,6}

Pathogenesis

The etiology of pelvic organ prolapse is not clear but appears to be multifactorial. Genetics and ethnic differences may play a significant role in a woman's predisposition to developing prolapse.^{2,7} Childbirth, with increasing parity, is considered to be one of the strongest factors in the development of prolapse.^{2,8} This may be a result of direct damage to the muscle and fascia of the pelvis or of indirect weakness of the muscle caused by neurological injury. Increasing age and body mass index are also thought to be associated with an increased risk of pelvic organ prolapse.^{2,8} Additionally, conditions that increase intra-abdominal pressure, such as chronic cough and chronic constipation,⁹ and heavy lifting¹⁰ may increase the risk of developing pelvic organ prolapse.

Pelvic organ support can be considered in two categories: pelvic muscles and endopelvic fascia (Figure 1). The pelvic floor is made up of the levator ani and coccygeal muscles. The levator ani is composed of three parts: the puborectal, pubococcygeal, and iliococcygeal mus-

cles. These muscles create a hammock between the pubis and coccyx, attaching laterally along the pelvic sidewalls. The levator ani muscle is tonically contracted, providing a firm shelf posteriorly to support the pelvic contents and aiding with urinary and fecal continence. Endopelvic fascia is a loose network of connective tissue that surrounds and supports the pelvic organs and vagina. Condensations of the endopelvic fascia are known as the uterosacral and cardinal ligaments and the rectovaginal and vesicovaginal septa. These condensations help to keep the vagina in its normal position in the pelvis, directed posteriorly toward the sacrum.¹¹

The vagina is supported at three levels. The apex (level 1) is supported by the cardinal and uterosacral ligaments; failure results in uterine prolapse or vault prolapse posthysterectomy. The mid-vagina (level 2) is supported by the attachment of the vagina to the levator ani at the tendinous arch of pelvic fascia (white line); failure results in a cystocele or rectocele. The lower vagina (level 3) is supported by its attachment to the perineal membrane and perineal body. Failure here results in a relaxed vaginal outlet.¹²

Prolapse results from a disruption in these attachments. The injury may involve either tearing or stretching of the endopelvic fascia or loss of tone as a result of neurological injury. In the past, prolapse was described by the structures perceived to be located behind the vaginal bulge, such as cystocele, rectocele, or enterocele. The use of these terms has been discouraged as it is not always certain which organs truly exist in the bulge. The affected vaginal segment, such as anterior or posterior wall prolapse, vault or uterine prolapse, or perineal descent, should be used to describe prolapse.¹³

Clinical Findings

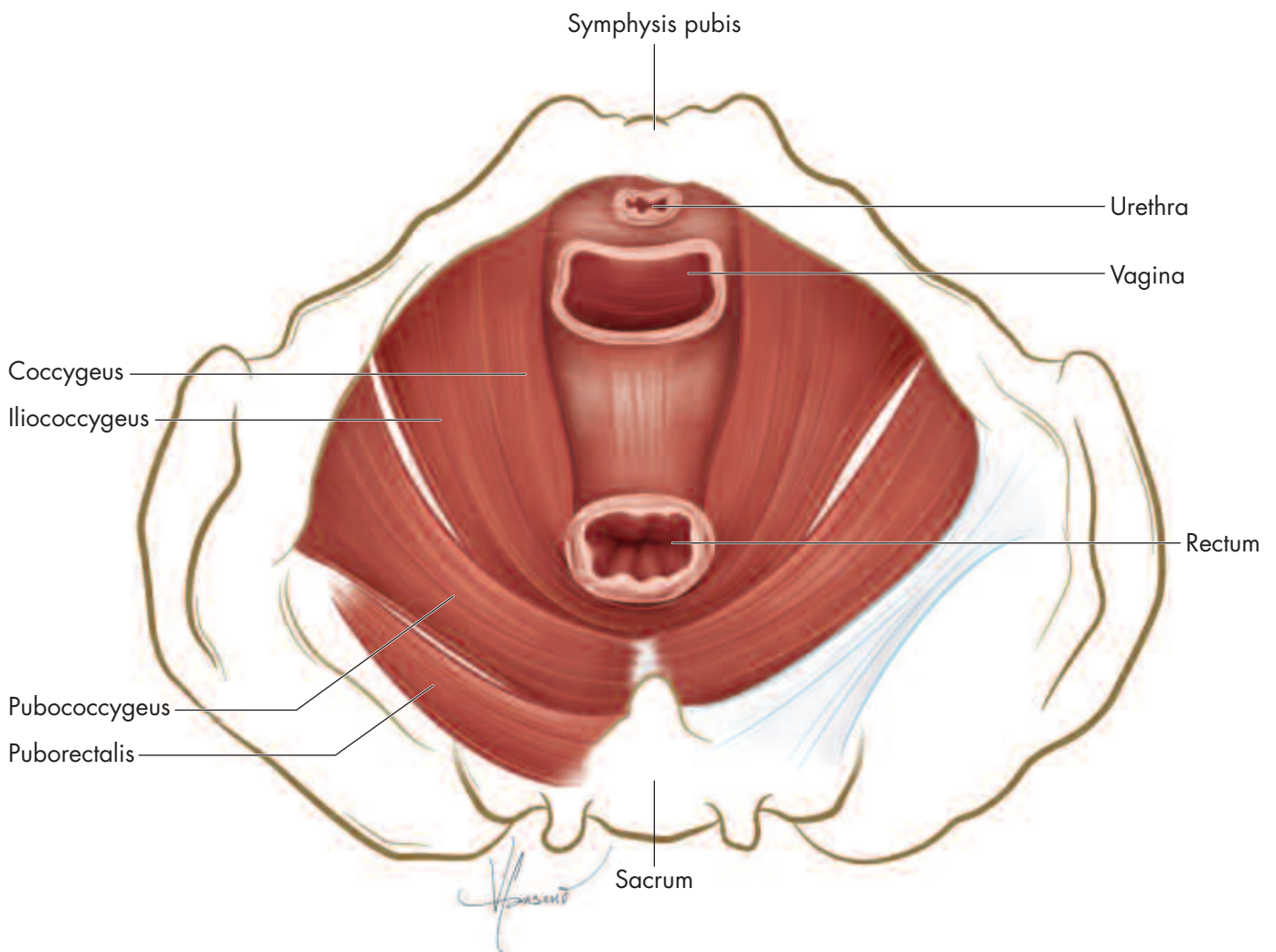
Many women with mild prolapse are asymptomatic. Advanced forms of prolapse may prompt women to report feeling or seeing a bulge of vaginal tissue or experiencing pelvic pressure or discomfort. Inquiring about whether a patient

Figure 1:
Anatomy of the Pelvic Floor

pelvic floor prolapse

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The pelvic floor is made up of the levator ani and coccygeal muscles. The levator ani has three parts including the puborectal, pubococcygeal, and iliococcygeal. These muscles create a hammock between the pubis and coccyx, attaching laterally along the pelvic sidewalls. The levator ani muscle is tonically contracted, providing a firm shelf posteriorly to support the pelvic contents and aiding with urinary and fecal continence.



Levator ani= puborectalis, pubococcygeus, iliococcygeus

has felt a bulge or something falling out of the vagina has been shown to be an excellent screening question for the presence or absence of prolapse, with very high positive and negative predictive values.¹⁴ Women may also report poor sexual functioning or less frequent sexual activity with the presence of prolapse.¹⁵ Additionally, they may describe bothersome urinary or fecal incontinence or difficulties with urinating or defecating, necessitating digital assistance to void or evacuate the rectum.¹⁶ All older women should be screened for symptoms of pelvic organ prolapse as many women may be embarrassed or think that prolapse is a normal part of aging.

Among older women, physical assessment should include a pelvic examination consisting of inspection of the external and internal genitalia and bimanual examination. The physician should focus on the location and severity of prolapse, which can be diagnosed in either the lithotomy or standing position. The severity of prolapse can be easily graded using the halfway system (Table 1).¹⁷ The International Continence Society recently developed a more detailed grading system called the pelvic organ prolapse quantification system (POP-Q), which is widely used in research studies.¹³ The physician should also inspect for signs of vaginal atrophy (erythema or loss of rugosity), evaluate for stress incontinence with the cough stress test, and assess levator ani muscle strength by having the patient perform a Kegel exercise. Additional evaluation may include the measurement of postvoid residual to rule out urinary retention, a focused neurological examination of the lumbar and sacral segments, and a rectal examination to assess sphincteric tone.

Treatment

Recognizing that some degree of prolapse is exceedingly common among older women,¹⁸ observation of prolapse in an asymptomatic individual is an acceptable option. The prognosis of asymptomatic prolapse in a specific individual is uncertain as it may progress or remain the same. The presence of pro-

lapse on examination should however prompt the physician to inquire about or evaluate for concomitant urinary or fecal dysfunction as this may be a reason to encourage treatment. Some primary care physicians, such as gynecologists, may be comfortable inserting pessaries or performing surgery for pelvic organ prolapse. Other primary care physicians should refer symptomatic patients to a gynecologist or urogynecologist.

For symptomatic prolapse, nonsurgical treatment may be attempted using a pessary. This is a flexible device made of plastic or silicone that is placed into the vagina to support it. While a pessary will not permanently cure prolapse, many consider it a good long-term solution, especially for older women who have medical contraindications to surgery or prefer not to undergo surgery. Other indications for pessaries include their use as a temporizing measure while a woman is awaiting surgery or aiding in the preoperative healing of erosions for women with massive prolapse. Pessaries are also useful as preoperative diagnostic aids as they may assist a woman in determining if her pelvic discomfort or back pain is a result of a prolapse.¹⁹ Side effects of using a pessary include vaginal irritation, bleeding, and discharge. Its use can sometimes result in urinary incontinence through the unmasking of an underlying intrinsic sphincter deficiency.²⁰ There are a wide variety of pessaries (Figure 2), and they should be selected based on the type and severity of prolapse along with the size of the genital hiatus. Ring pessaries are the most widely used type of pessary as many women are able to insert and remove them on their own, thus permitting sexual activity. In general, women with pessaries in place should be seen at 2- to 3-month intervals. Those with atrophic vaginal mucosa should use a topical estrogen to help prevent erosion.

Reconstructive surgical procedures aim to restore normal anatomical relationships in the pelvis. Anterior wall prolapse is corrected by either colporrhaphy (plication of the vesicovaginal fascia in the midline) or paravaginal repair (reattachment of the lateral vagina to the

Table 1: The Halfway Grading System for Pelvic Organ Prolapse

Grade	Level of Prolapse*
1	No prolapse
2	Descent halfway to the hymen
3	Descent to the hymen
4	Descent halfway past the hymen
5	Maximal possible descent for each site

*Graded during maximal straining.

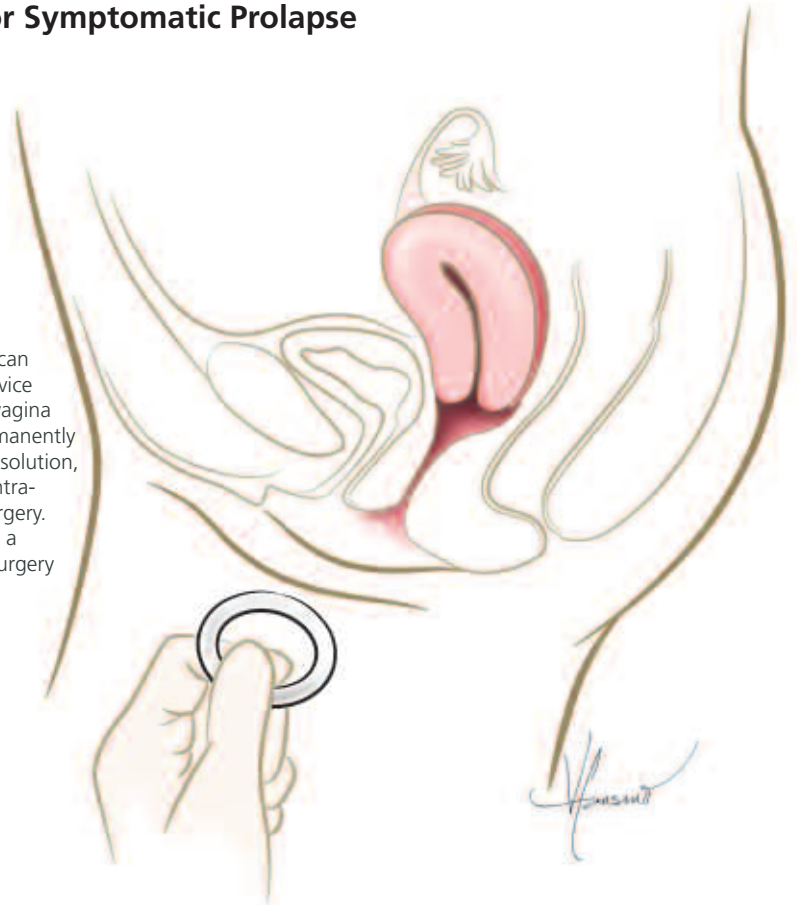
tendinous arch of pelvic fascia) depending on the site of the defect. Posterior wall prolapse is usually repaired by either colporrhaphy (plication of the rectovaginal fascia in the midline) or site-specific repair (closure of specific defects visualized in the rectovaginal fascia). Apical defects are usually repaired with abdominal sacrocolpopexy (using two strips of mesh to attach the anterior and posterior vaginal walls to the ligament overlying the sacrum by either an abdominal or laparoscopic approach), sacrospinous ligament fixation (attaching the apex of the vaginal vault to the sacrospinous ligament in the coccygeal muscle via the vaginal route), or uterosacral ligament suspension (attaching the vaginal vault to the remnants of the uterosacral ligaments accomplished by abdominal, vaginal, or laparoscopic routes). A relaxed vaginal outlet is corrected by perineorrhaphy (reapproximation of the transverse perineal and bulbocavernosus muscles). The specific type and route of procedure depends on the site or extent of prolapse, the specific patient, and the surgeon's preferences. Overall, pelvic organ prolapse surgery is associated with a reoperation rate of almost 30%³; and therefore, some surgeons use a biological implant or synthetic mesh to reinforce vaginal repairs with anterior or posterior colporrhaphies. Long-term data on the efficacy of these procedures in preventing the recurrence of prolapse are lacking.

Obliterative surgical procedures are

Figure 2:
Pessaries – Nonsurgical Treatment for Symptomatic Prolapse

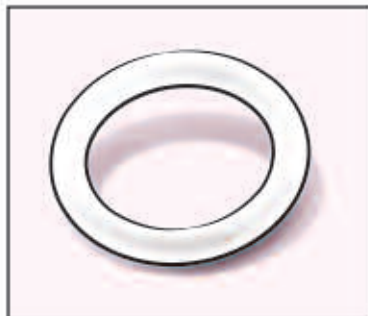
treatment

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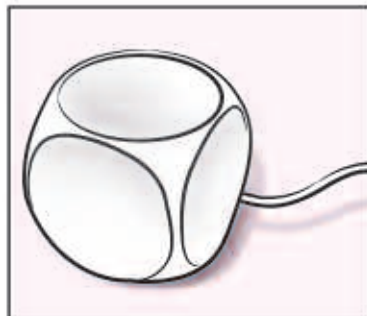


pessaries

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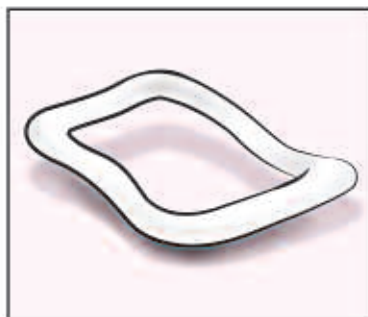
Ring



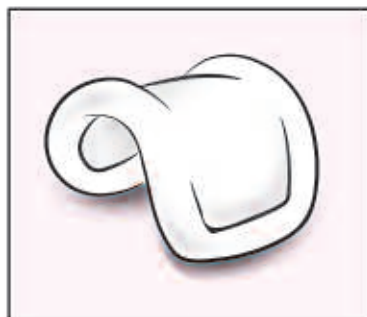
Cube



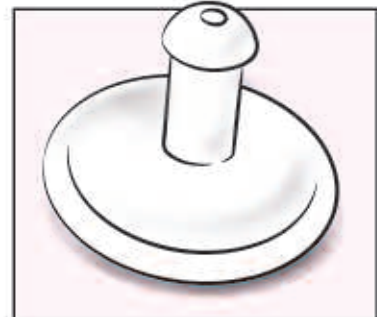
Donut



Hodge



Gehrung



Gellhorn

Key Points

Pelvic organ prolapse may affect as many as 50% of adult women over the age of 40 years. Its incidence and prevalence increase with age.

Pelvic organ prolapse is a multifactorial condition involving the loss of support of the pelvic organs. Risk factors include genetic predisposition, vaginal childbirth, age, obesity, chronic cough, and chronic constipation.

Symptoms can include a bulge of tissue protruding through vaginal opening, pelvic pressure, and difficulty with urination, defecation, or sexual activity.

Evaluation should include inspection, a speculum examination using a standardized grading system, palpation, and a search for associated signs.

Options for treatment include observation, the use of a pessary, and reconstructive or obliterative surgery.

associated with a quicker operative time and less perioperative morbidity than reconstructive procedures, making them excellent surgical options for older women who are no longer sexually active.²¹ The most common procedure performed is colpocleisis. The surgery involves narrowing the vagina with tight plication of the intrapelvic fascia and levator and perineal muscles with or without the creation of two small channels to allow for mucus or blood to drain if needed. These procedures are associated with low recurrence risks.^{21,22} A study of older women undergoing obliterative surgery showed that women undergoing these procedures had significantly improved quality of life following surgery.²³

Behavioural and physical therapy have a role in the treatment of urinary incontinence in women with prolapse,²⁴ but there are no confirmatory data in the management of prolapse itself. Women should be counselled on the importance of weight loss, smoking cessation, and treating chronic constipation as these steps may prevent or slow the progression of pelvic organ prolapse.

Conclusion

Pelvic organ prolapse is a common condition among women. Early-stage prolapse has minimal symptoms and requires little or no intervention. Advanced prolapse can be a progres-

sive and distressing condition requiring treatment in the form of a pessary or surgery.



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