

## Female Urethral Diverticula

The female *urethra* is the channel that conducts urine from the *urinary bladder* to its external opening on the *vestibule*. A urethral diverticulum is a pouching or herniation of the inner lining (*mucosa*) of the urethra through a defect in the outer urethral supporting tissue (*peri-urethral fascia*).

Urethral diverticula occur in approximately 1–6% of adult females. The average age of presentation is 40 years old. The major underlying cause is infection and/or obstruction in the peri-urethral glands that surround the urethra. When the peri-urethral glands become infected and/or obstructed, abscess formation and ultimately rupturing of the abscess into the urethra can occur. During the healing phase, the cells that line the urethra can then grow out into the cavity formed by the rupturing of the abscess, forming a urethral diverticulum.

A patient with a urethral diverticulum often presents with one or more classic 3 symptoms including the following: dribbling of urine after urinating; burning with urination (dysuria); and painful sexual intercourse (dyspareunia). Urethral diverticula will often cause urinary infections that are unresponsive to antibiotic treatment. On occasion, a urethral diverticulum may cause obstructive voiding symptoms and urinary retention.

Physical exam will demonstrate a tender, cystic, swelling of the anterior (upper) vaginal wall. When the cystic swelling is manipulated, urine or possibly pus may be expressed through the urethra. Urethral diverticula may be further evaluated with an x-ray called a *voiding cysto-urethrogram*; more commonly, *MRI* is being used because of the greater anatomical clarity. Another important test is *urethroscopy*, a visual inspection of the urethra and bladder using a small, lighted instrument.

Not all urethral diverticula require treatment, particularly if they are small and not symptomatic. The treatment of symptomatic urethral diverticula is surgical excision known as *urethral diverticulectomy*. The surgery is performed via a trans-vaginal approach. Prior to the surgery, it is very important to be maintained on antibiotics in order to minimize the presence of urinary tract infection. The procedure is generally done on an outpatient basis and after it is completed, you will be sent home with a urinary catheter and antibiotics, pain medication, and a bladder relaxant. The catheter is typically removed approximately 7–14 days after the surgical procedure.

The results of urethral diverticulectomy are usually very successful and gratifying. That stated, as in any surgical procedure, there is always a small risk of side effects. In general, the closer a urethral diverticulum is located to the bladder neck, the greater the potential risk for complications. Every patient with a urethral diverticulum should be apprised of the following potential side effects as a result of surgical excision: bladder or ureteral injury; urinary incontinence; urethral

stricture (scarring resulting in narrowing of the channel); urethral-vaginal or vesico-vaginal fistula (abnormal connections between the vagina and either the urethra or the bladder); and recurrence of the urethral diverticula.