Add Cystoscopy to Incontinence, Vaginal Surgery

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EXPERT ANALYSIS FROM AN INTERNATIONAL PELVIC RECONSTRUCTIVE AND VAGINAL SURGERY CONFERENCE

ST. LOUIS – Performance of routine cystoscopy in vaginal surgery and surgery for incontinence is useful to detect sutures and mesh going into the bladder, and to facilitate their removal, thus preventing morbidity from vesicovaginal fistulas, as well as ensuring that the ureters aren't injured.

This was the message delivered by Dr. Peter M. Lotze of the University of Texas and Baylor College of Medicine, Houston.

He showed an example of a Burch suture that was left in the bladder during urethropexy. Had the suture been identified perioperatively, it could have been easily removed, but because it was identified at a later time, operative cystoscopy was required for removal of the stitch, he explained.

During a video demonstration of cystoscopy at the conference, which was sponsored by the Society of Pelvic Reconstructive Surgeons, Dr. Lotze provided a number of tips and techniques for improving surgery outcomes using cystoscopy and cystourethroscopy.

For example, examination of the bladder is best accomplished using either a 30-degree or 70-degree rigid cystoscope, both of which offer the angles necessary to examine the bladder in its entirety, the urogynecologist said.

A 0- or 15-degree cystoscope is best for examining the circumferential nature of the urethra. Switching between scopes with different angles may be necessary to examine both the bladder and urethra,

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he noted. A small sheath, such as a 17 French (17 Fr), should be considered to allow easier passage through the urethra and into the bladder; larger sheaths may be difficult to pass and could traumatize the urethra, Dr. Lotze said.

For office cystoscopy during which the patient is awake, consider the use of a flexible cystoscope to enhance patient comfort.

If the view of the bladder wall is obscured, excess sediment, blood, or intravenous dye could be the cause; filling, emptying, and refilling the bladder as needed will allow a clearer view of the urothelium. The administration of IV dye such as indigo carmine dye should be used only after the surgical procedure is complete to provide clearer confirmation that the ureters are patent, compared with when it is given before or during the procedure.

A Burch suture left in the bladder during urethropexy could have been easily removed had it been identified perioperatively. Instead, operative cystoscopy was required.

Changing out the light cords regularly is imperative, as these are frequently damaged, causing impaired visualization.

For the cystoscopic procedure, Dr. Lotze suggested using a methodological approach each time to ensure that a consistent, reliable, reproducible bladder survey is done.

In his demonstration of a cystoscopic bladder survey, he recommended beginning at the base of the bladder, moving along the mid-hemitrigone and then up to the bladder dome, paying careful attention to stay within a few centimeters of the surface of the bladder to allow for adequate assessment of the bladder surface. Next, move from the 6 o'clock position to the 12 o'clock position, pass the scope from the 2 o'clock to the 7 o'clock position, then divert the scope to the 4 o'clock position, and proceed to the 10 o'clock position.

After a viewing of these multiple angles, the bladder survey is completed by beginning at the 3 o'clock position and moving to the 9 o'clock position. The trigone should then be examined. It is at this point that ureteral patency can be evaluated if indicated.

The procedure is completed with an examination of the proximal, middle, and distal thirds of the urethra to rule out evidence of pathology within the structure.

Common findings on cystoscopy include:

► **Normal urothelium.** This is characterized by a somewhat pale appearance, with fine arterial and venous blood vessels.

► **Hypervascularity.** In stark contrast to normal urothelium, this involves an increase in both the arterial and venous blood vessels within the bladder. Consider a bladder biopsy if the cause of this pathology is unknown.

► **A lesion growing from the wall of the bladder.** This should be biopsied, as it likely represents a carcinoma.

► **A lesion with a grape-like cluster of cells.** This typically represents a transitional cell carcinoma and should be biopsied and treated.

► **Squamous metaplasia.** This benign overgrowth of cells that make up the trigone may include clear cysts, known as cystitis cystica. Floating particles in the cystoscopy field, which are referred to as exudate, are the result of a squamous metaplasia detaching from the trigone.

► **Lesions on the hemitrigone and bladder dome areas.** These may include plaques (typically associated with bladder infection) or opaque cysts, known as cystitis glandularis (which may be associated with recurrent bladder infections). If the cause of these cysts is unknown, a biopsy is warranted.

► **A hypertrophied detrusor muscle within the bladder.** This finding, known as a trabeculation, is common in patients with overactive bladder and also can be seen in patients with outlet obstruction.

► **An inflammatory reaction in the bladder neck or proximal urethra.** These "pseudo-polyps" or "fronds" are an inflammatory response to a recent bladder infection, and represent a benign condition.

► **Sluggish flow of urine on ureteral examination.** This could be normal, but could be a sign of partial obstruction from the current surgery or a past surgery, a kidney stone, or a possible stricture in the ureter. Postoperative swelling neighboring the ureter could cause obstruction, and a work-up is warranted if this is suspected.

Dr. Lotze disclosed that he is a speaker for Boston Scientific, and has conducted research for the company. ■