Clitoral Pain Following Retropubic Midurethral Sling Placement

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ABSTRACT

Introduction. Although uncommon, postprocedural pain with associated sexual dysfunction may be seen in patients after retropubic midurethral sling placement for treatment of stress urinary incontinence.

Aims. To describe a report of a woman who developed localized severe, persistent periclitoral pain after placement of a retropubic midurethral sling.

Methods. A healthy 41-year-old underwent an uncomplicated retropubic midurethral sling procedure. She developed persistent postoperative clitoral pain with worsening associated with arousal, impairing sexual function. Symptoms resolved with time and a course of steroid medication.

Main Outcome Measures. To report a case of clitoral pain following midurethral sling surgery, and to provide a discussion about clitoral innervation, possible pain etiologies, and management options.

Results. We report a case of clitoral pain associated with sexual dysfunction and provide a review of clitoral innervation as well as potential mechanisms of nerve injury associated with a retropubic sling procedure.

Conclusion. Clitoral pain symptoms following placement of a retropubic midurethral sling should be evaluated and promptly addressed, given the potential negative impact on the patient’s sexual function. Christofferson M, Barnard J, and Montoya TI. Clitoral pain following retropubic midurethral sling placement. Sex Med 2015;3:346–348.

Key Words. Clitoral Pain; Midurethral Sling; Sexual Dysfunction

Background

Tension-free midurethral slings have become the preferred surgical treatment for female stress urinary incontinence. Although rare, complications of persistent postprocedural pain and negative impact on sexual function have been reported following midurethral sling placement [1–4]. Here, we present a case of postoperative clitoral pain impairing sexual function associated with a retropubic midurethral sling.

Case

A healthy 41-year-old G4P4 with a history of stress urinary incontinence and no prior surgery underwent a retropubic midurethral sling procedure. The procedure was performed by a fellowship-trained Female Pelvic Medicine and Reconstructive Surgery specialist. The patient’s intraoperative and immediate recovery was uncomplicated, and she was discharged home shortly after procedural completion.
On the 2-week postoperative clinic visit, the patient reported periclitoral pain. She described a constant, sharp sensation of pain in the area surrounding the clitoris. Pain was mildly relieved with oral analgesics. Physical exam revealed good incisional healing with mild tenderness on transvaginal palpation along the right retropubic area, and no masses were palpated. Clitoral exam was unremarkable. Urinalysis was unremarkable. She was treated expectantly with analgesic medication and instructed to return for reassessment in 2 weeks.

The patient returned for a second postoperative visit 10 weeks after surgery. She reported persistent and worsening clitoral discomfort. The patient was particularly distressed because of severe exacerbation of clitoral pain associated with arousal, negatively impacting her desire for any sexual activity, including attempted vaginal intercourse. On examination, mild tenderness was noted on retropubic transvaginal palpation on the right side, although significantly less so than on the first postoperative visit’s exam. A prescription for a prednisone taper was given, with plans for sling excision if pain persisted, and a return visit the following week.

On her third postoperative visit 12 weeks after surgery, the patient reported resolution of the clitoral pain shortly after completion of the prednisone course. Exam was unremarkable. The patient noted that she was able to have intercourse without significant pain, and she experienced no pain on arousal. In addition, she was fully continent.

**Discussion**

Studies evaluating sexual function after midurethral sling surgery show conflicting results [3,5,6]. While improvement may be related to resolution of urinary incontinence during intercourse, negative impact on sexual function may be secondary to injury to neurovascular genital structures and/or persistent pain, which reportedly occurs in 1% of retropubic midurethral sling procedures [4]. General mechanisms of neuropathic pain associated with surgery include direct nerve injury (from partial or complete transection), compression (resulting from operative manipulation, mass effect from hematoma or abscess, or presence of foreign body), and stretch injury [7–9]. While most minor nerve insults are self-limited and improve with expectant management, severe injury such as transection may result in persistent symptoms and permanent loss of function.

The female sexual response includes a complex interplay of autonomic and somatic neurosignaling at the level of the clitoris [1,2,10]. Autonomic innervation originates from the hypogastric and the pelvic splanchnic nerves, which converge to form the inferior hypogastric plexus, and eventually give rise to the cavernous clitoral nerves, responsible for clitoral vasocongestion associated with arousal [2]. Peripheral sensory afferent nerves derive from the S3 and S4 nerve roots, forming the pudendal nerve and branching into the dorsal nerve of the clitoris (DNC), the perineal nerve, and the inferior rectal nerve on the perineum [11]. The DNC plays a role in arousal by relaying tactile clitoral stimulation centrally. Disruption of these nerves may result in altered function, impacting sexual arousal and orgasm [2].

The path of retropubic midurethral sling placement lies in close proximity with clitoral neuroanatomy [2,10–13]. Different scenarios for nerve injury associated with retropubic sling placement are possible. After exiting Alcock’s canal medial to the ischial tuberosity, the DNC travels caudal to the perineal membrane for most of its path [2,11]. The retropubic sling trochar needle passes cephalad to the perineal membrane [13], making DNC transection injury unlikely. However, a plausible mechanism of DNC injury involves compression of the nerve against the ischiopubic ramus by vaginal sidewall retractors during surgery [11]. In contrast, direct injury of the cavernous clitoral nerves during retropubic midurethral sling placement is possible, given that the retropubic needle travels directly in their path [2].

Peripheral sensitization may play an important role in localized postsurgical pain. Local tissue injury promotes the release of inflammatory cytokines and prostaglandins, lowering the conduction threshold of nociceptive pathways [14]. This phenomenon can lead to increased perception of pain as long as the inflammatory process is promoted [15]. Breaking the inflammatory cycle by means of analgesic or steroid medication brings the nociceptive threshold back to baseline and may result in resolution of pain. The patient in this case report had localized clitoral pain impairing arousal and desire for sexual activity. Symptoms ultimately resolved with time and after an oral steroid course, suggesting that peripheral sensitization may have played a role in her symptoms. Lastly, non-neural mechanisms of pain may be related to tension...
between the sling mesh material and the surrounding tissue structures [16]. In such cases, or in cases of persistence or worsening of symptoms, surgical excision of the sling may be considered. Sling excision has been successful in symptom resolution in cases of midurethral sling-related neuropathies [17,18].

Although uncommonly seen, postprocedural clitoral pain symptoms following placement of a midurethral sling may have a significant impact on the patient’s sexual function and overall quality of life. Patients with these symptoms should undergo prompt evaluation and treatment with anti-inflammatory medication, and sling excision should be considered in cases with worsening or persistent symptoms.

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