CASE REPORTS

Therapeutic Pudendal Nerve Blocks Using Corticosteroids Cure Pelvic Pain after Failure of Sacral Neuromodulation

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A B S T R A C T

A patient with bladder frequency and urgency associated with pelvic pain had no control of symptoms by previous bladder distention, hysterectomy, or sacral nerve root stimulator. A clinical and neurophysiological diagnosis of pudendal neuropathy was made. Treatment with a nerve protection program and pudendal nerve perineural injections of local anesthetics and corticosteroids has provided total symptomatic relief that is durable.

Key Words. Pudendal Neuralgia; Chronic Pelvic Pain Syndrome; Pudendal Nerve Blocks; Sacral Nerve Root Stimulator; Quantitative Sensory Test; Vulvodynia

Introduction

Sacral nerve root stimulation for control of urinary urgency and urinary retention can be successful. Serendipitous relief of pain has encouraged the off-label use of sacral nerve root stimulators (SNRS) to treat chronic nonmalignant pelvic pain with variable success [1].

We report of a case of a woman in whom sacral nerve root stimulation and multiple preceding interventions failed to control irritable bladder and pelvic pain. Pudendal neuropathy was identified. Treatment included self-management to prevent additional nerve damage and bilateral pudendal nerve perineural injections using triamcinolone.

Methods and Materials

Patients referred to a clinic that treats only chronic pelvic pain (CPP) undergo a thorough history of pelvic pain and organ symptoms. Examination focuses on sensory evaluation, pain reproduction using pressure over the nerve, and neurophysiological testing. A quantitative sensory test called the warm detection threshold (WDT) follows a stepping algorithm (Physi-Temp NTE-2A, Clifton, NJ) [2,3]. The pudendal nerve terminal motor latency test (PNTMLT) is performed using the St. Mark’s surface electrode [4]. Symptom scores are monitored at consultation and during treatment, including a female version of the National Institutes of Health Chronic Prostatitis Symptom Index (NIH-CPSI) [5] and the American Urological Association Symptom Index (AUASI) [6].

Treatment includes prevention of nerve damage by a self-management program that avoids sitting and hip flexion activities. When sitting is necessary, a “perineal suspension pad” with a hollow center supports the ischial tuberosities and relieves pressure on the perineum.

Three therapeutic pudendal nerve perineal injections (PNPI) are given at 1-month intervals using bupivacaine 0.25%, 6 ml, and triamcinolone 40 mg [7,8]. Two are given at the ischial spine using fluoroscopic guidance (Figure 1), and one is given into the Alcock canal using computed tomography (CT) guidance (Figure 2).
Results

An 81-year-old woman had a 4-year history of progressive symptoms beginning with heaviness in the pelvis, then progressing to irritable bladder with frequency, urgency, and nocturia, and, subsequently, pain in the urethra and vagina. Previous ineffective treatment included hydraulic distention of the bladder, hysterectomy, narcotics, imipramine, lorazepam, gabapentin, prednisone, and anticholinergic drugs. SNRS placement aggravated her symptoms, requiring removal of the device approximately 1 month after placement. She was referred approximately 1 year after SNRS removal.

Pelvic examination was normal. Magnetic resonance imaging of the pelvis was normal. Pudendal neurological evaluation revealed hyperalgesia at the clitoris and labia bilaterally and normal sensation of the posterior perianal areas. Pressure on the nerve reproduced her symptoms (the Valleix phenomenon). During the WDT, she was unable to feel 43.5°C at the clitoris on the right side, nor at the posterior perianal skin bilaterally. She perceived 42.0°C at the left side of the clitoris, and 38.8°C and 39°C at the posterior labia (normal less than 39°C). These sites measure the innervation of the three major branches of each pudendal nerve. The PNTMTL was elevated, 2.3 ms on the right, and 2.5 ms on the left. These are slightly elevated (normal range 2.2 milliseconds), although we do not have normal values for the ninth decade of life. There was no neuritic pain induced by the electrical stimulus.

Symptom scores were markedly elevated, including the female modification of the NIH-CPSI, and the AUASI (Figure 3). These normalized following treatment. She found the perineal suspension pad beneficial in reducing her pain when sitting. Pain declined consistently after each of three bilateral PNPI.
Discussion

Shafik et al. and Robert et al. published early modern anatomical studies of pudendal nerve compression [10,11]. Symptoms can include pain in the pudendal nerve territory and may be accompanied by bladder, bowel, and sexual dysfunction. CPP is a serious dilemma for both patients and physicians. Fifteen percent of women have CPP for which they lose time at work [12,13]. In the United States, CPP in women has an annual health care cost of $2.9 billion [14]. It is paramount to raise concerns about conventional diagnoses in CPP and inappropriate application of expensive technology. In 2004 we identified pudendal neuropathy in eight consecutive patients with CPP that had not been relieved following SNRS [15]. The present case report represents one patient from that cohort.

Therapeutic pudendal blocks using CT guidance are described in medical publications [16,17]. The present authors prefer the technique of therapeutic pudendal nerve blocks used at the Hotel Dieux in Nantes, France, where two are given at the ischial spine using fluoroscopic guidance and one into the Alcock canal using CT guidance [7]. Pudendal nerve perineural injections can be curative [18,19]. In this report, the patient appears to be cured because she remains asymptomatic >32 months after the third block. Some patients require decompression and transposition of the pudendal nerve [10,11,20,21].

The domains of the NIH-CPSI capture the symptoms of pudendal neuralgia better than several other pelvic pain scores that we have studied. The female modification uses gender-specific anatomical terms and consistently correlates with patients’ subjective responses. The male version is validated [22]. The AUASI is used internationally in both genders to monitor urinary symptoms.

Conclusion

Evaluation of CPP should include a search for pudendal neuropathy in order to avoid unnecessary, expensive, and possibly harmful procedures. Patient symptoms can often discern the problem: symptom aggravation by sitting or driving, or improvement with recumbence, standing, or sitting on toilet seat. Evaluation using pinprick in the pudendal distribution suggests neuropathy. Simple and inexpensive neurological testing, the WDT and the PNTMLT, detect sensory and motor neuropathy, respectively. Treatment with a simple self-care, nerve protection program, and pudendal nerve perineural injections using triamcinolone and bupivacaine, successfully cured pain and voiding symptoms in an 81-year-old woman with pudendal neuropathy and pudendal neuralgia. The possibility of pudendal neuropathy should be considered in patients of either gender who complain of pelvic pain with or without bladder, bowel, or sexual dysfunction.

References