PAIN MEDICINE CASE REPORTS

ISSN 2768-5152

Volume 6, Number 6, pp. 215-217

Pudendal Nerve Block for Postherpetic Pudendal Neuralgia Pain

Alec Cartegenas, MD, Jessica Zhang, MD, and Alopi Patel, MD

Background: Pudendal neuralgia is known to disproportionately affect women, with clinical manifestations that may result in a debilitating chronic pain syndrome. The mainstay of treatment is physical therapy, pharmacologic treatment, or interventional procedures for refractory pain. In regard to pudendal neuralgia secondary to herpes simplex infection, only one previous published case report was found, indicating the need for future development of treatment regimens.

Case Report: The patient is a 28-year-old woman with a past medical history of herpes simplex virus infection, after which she developed residual vulvar sensitivity refractory to conservative treatment and pharmacologic intervention. A pudendal nerve block was performed, resulting in significant pain relief post intervention.

Conclusion: The utilization of a pudendal nerve block with local anesthetic and dexamethasone provided an overall reduction of her baseline vulvar pain not previously achieved by prior treatment. Pudendal nerve blocks may serve an important role in the treatment of refractory postherpetic neuralgia pain.

Key words: Case report, pudendal nerve block, pudendal neuralgia

BACKGROUND

Pudendal neuralgia is a vulvar pain syndrome characterized by neurologic pain along the distribution of the pudendal nerve (1). The prevalence of pudendal neuralgia is largely unknown, with women encompassing the most affected population. Pain management typically involves physical therapy, oral medications, and topical medications. Medical therapy may include neuropathic medications including gabapentin, pregabalin, tricyclic antidepressants, or topical medications such as topical capsaicin or topical lidocaine (2). We present a case of a female patient with postherpetic pudendal neuralgia with symptoms refractory to conservative therapy who had significant improvement of symptoms after a pudendal nerve block. There have been no reported cases of postherpetic pudendal neuralgia that were treated with pudendal nerve blocks. Further research is necessary to develop a more efficacious comprehensive treatment approach.

CASE

Patient Information and Clinical Findings

The patient is a 28-year-old woman with a past medical history of herpes simplex virus (HSV) infection 2 years prior, after which she developed residual vulvar sensitivity. She reported severe 9 out of 10 pain at approximately the 6 pm location of the vulva in a small area where one of the herpetic vesicles was located, worse towards the left than the right. The pain was described as shearing, sharp, and burning with sensitivity causing superficial dyspareunia. She denied changes in bowel and bladder function, history of depression/anxiety, or recent illness.

Though her pain was worst during intercourse, she also reported pain while sitting as well as sensitivity to touch including with tight-fitting clothing. She was seen by her gynecologist, at which time she was diagnosed with postherpetic pudendal neuralgia due to localiza-

From: Mount Sinai Roosevelt: Mount Sinai West Medical Center

Corresponding Author: Jessica Zhang, MD, E-mail: jlz2011@outlook.com
Disclaimer: There was no external funding in the preparation of this manuscript.
Conflict of interest: Each author certifies that he or she, or a member of his or her immediate family, has no commercial association (i.e., consultancies, stock ownership, equity interest, patent/licensing arrangements, etc.) that might pose a conflict of interest in connection with the submitted manuscript.
Patient consent for publication: Consent obtained directly from patient(s).
Accepted: 2022-07-29, Published: 2022-10-31

tion of pain in the same area of a previous vesicle. She tried pregabalin 75 mg twice a day, nonsteroidal anti-inflammatory drugs (NSAIDS), valacyclovir, topical lubricants, and lidocaine ointment with little benefit. She was seen in the pain office for vulvar pain syndrome secondary to postherpetic pudendal neuralgia, at which time the risks and benefits of a pudendal nerve block were discussed.

Therapeutic Intervention and Follow-up

A left-sided pudendal nerve block was performed via a transgluteal approach in the prone position under fluoroscopic guidance. Bilateral ischial spines were visualized under an anteroposterior view. The fluoroscope was then obliqued 15 degrees ipsilaterally until the ischial spine was visualized in the pelvic brim. A 25-gauge, 3.5-inch spinal needle was advanced under live fluoroscopic guidance until it reached the tip of the ischial spine (Fig. 1). One mL of omnipaque contrast medium was given to confirm no vascular spread. After negative aspiration, 3 mL of 0.25% bupivacaine and 1 mL of 10 mg/mL of dexamethasone was given.

On initial follow-up post procedure, the patient reported 100% resolution of symptoms for approximately 5 days after the block was performed. On postprocedure day 9, she reported a return of burning, aching pain in the same area, though much improved from initial symptoms with approximately a 50% reduction in intensity level. The risks and benefits of a repeat pudendal nerve block as well as pudendal nerve ablation were discussed. The patient decided not to proceed with a repeat block as she felt the symptoms were manageable with the reduction in pain.

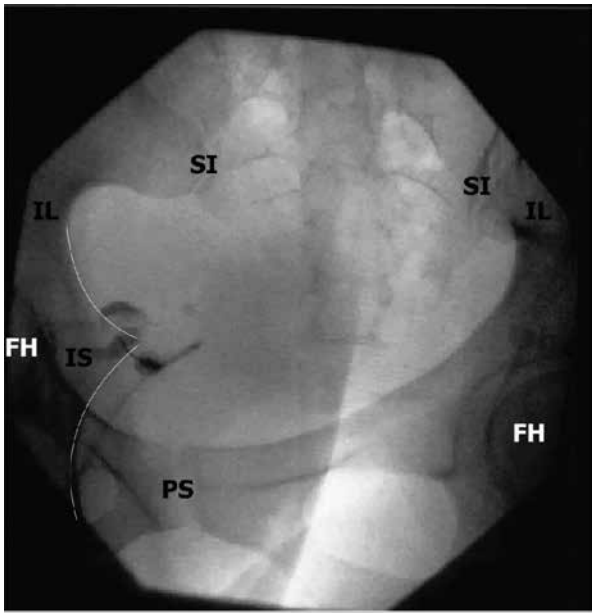

Fig. 1. Fluoroscopic image of pudendal nerve block
Abbreviations: FH, femoral head; IL, ilium; IS, ischial spine; PS, pubic symphysis; SI, sacroiliac joint

DISCUSSION

Pudendal neuralgia is a rare pain condition that is believed to affect one percent of the population and with a higher female predominance (of about 7:3) (3). It can be caused by positional stress such as prolonged sitting or repeated hip flexion with exercise, but may also arise after a fall, radiation therapy, or metastatic or infectious lesions to the nerve. Diagnosis of pudendal neuralgia is mostly clinical although the Nantes criteria exist as a guide for clinicians (Table 1). The differential includes urinary urgency, interstitial cystitis, persistent sexual arousal, dyspareunia, coccygodynia, myofascial pain, and chronic prostatitis.

The pudendal nerve arises from the S2, 3, and 4 ventral rami of the sacral plexus and exits the pelvis via the greater sciatic foramen. It ultimately branches into 3 branches: dorsal sensory nerve to the clitoris/penis, perineal branch, and inferior rectal branch (Fig. 2). Sensory, motor, and autonomic nerve fibers make up the pudendal nerve. The nerve can be damaged or compressed anywhere along the tract.

Treatment is often delayed as patients are often misdiagnosed due to the vast differential diagnoses, or their symptoms are dismissed. Conservative therapy includes lifestyle modifications (e.g., decreased sitting time, increased exercise), physical therapy, or devices such as a donut or U-shaped pillow to offload pressure on the ischial spine in a seated position. Physical therapy aims to strengthen as well as relax tight pelvic floor and gluteal muscles including internal manipulation. Pharmacologic treatment often includes neuropathic and anti-inflammatory medications including anticonvulsants (pregabalin, gabapentin), tricyclic antidepressants, and NSAIDS.

Table 1. Nantes criteria for pudendal neuralgia

1	Pain in the territory of the pudendal nerve: from the anus to the penis or clitoris
2	Pain is predominantly experienced while sitting
3	The pain does not wake the patient at night
4	Pain with no objective sensory impairment
5	Pain relieved by diagnostic pudendal nerve block

The most common cause of pudendal neuralgia is mechanical or inflammatory damage to the pudendal nerve by means of compression or trauma. Nonmechanical causes such as viral infection, multiple sclerosis, and diabetes are less likely to occur; treatment is typically aimed at the underlying disease process (4). In our patient, the likely inciting event was prior viral infection with HSV. She had failed conservative treatment with ongoing pain and discomfort. While this does not increase mortality, it severely affected her quality of life. A literature search only revealed one other case report of pudendal neuralgia secondary to HSV infection published in 1985 (5).

Interventional treatment includes pudendal nerve block, pulsed radiofrequency ablation, neuromodulation, and surgical decompression. A pudendal nerve block is a simple injection that can be both therapeutic and diagnostic. It can be performed transvaginally, transrectally, or via a transgluteal approach. Landmark technique or image guidance with either ultrasound or fluoroscopy can be used. Local anesthetic or a mixture of local anesthetic plus steroid can be used. In our patient, bupivacaine was given to assess the block efficacy and due to its longer duration of action compared to lidocaine. Dexamethasone was used to prolong the analgesic duration of the nerve block (6). Side effects can be pain at the injection site, bleeding, infection, and nerve damage. If the patient has a positive response, then pulsed radiofrequency can be considered. Neuromodulation with either a spinal cord stimulator or a dorsal root ganglion stimulation is an option for refractory chronic pain.

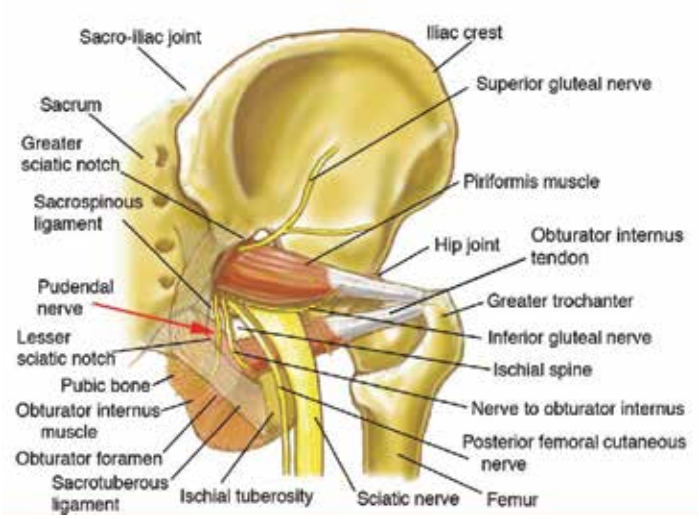

Fig. 2. Schematic illustrating nerve anatomy of the posterior pelvis. Modified from Winn HR (ed). Youmans Neurological Surgery. 6th ed. Philadelphia, PA: Elsevier; 2009.

CONCLUSION

We found that a pudendal nerve block with local anesthetic and steroid provided temporary complete relief of symptoms as well as a reduction in baseline pain once symptoms returned. Given the significant improvement, further treatment may include repeat pudendal nerve blocks or pulsed radiofrequency ablation. It is reasonable to consider pudendal nerve blocks as part of a comprehensive treatment plan for refractory postherpetic neuralgia pain.

REFERENCES

1. Amarenco G, Savatovsky I, Budet C, Perrigot M. Perineal neuralgia and Alcock's canal syndrome. *Ann Urol (Paris)* 1989; 23:488-492.
2. Spadt S, Kingsberg S. Treatment of vulvodynia (vulvar pain of unknown cause). Barbieri R (ed.). UptoDate Web site. www.uptodate.com/contents/treatment-of-vulvodynia-vulvar-pain-of-unknown- cause?search=vulvodynia%20treatment&source=search_result&selectedTitle=1~31&us age_type=default&display_rank=1.
3. Kaur J, Singh P. Pudendal nerve entrapment syndrome. In: StatPearls [Internet]. Treasure Island, FL, StatPearls Publishing, 2021. www.ncbi.nlm.nih.gov/books/NBK544272/. Date Updated 11/17/2020.
4. Hibner M, Castellanos M, Desai N, Balducci J. Pudendal neuralgia. *The Global Library of Women's Medicine* 2011; doi:10.3843/GLOWM.10468.
5. Howard EJ. Postherpetic pudendal neuralgia. *JAMA* 1985; 253:2196.
6. Pehora C, Pearson AME, Kaushal A, Crawford MW, Johnston B. Dexamethasone as an adjuvant to peripheral nerve block. *Cochrane Database Syst Rev*. 2017;CD011770.
7. Lee SH, Lee CJ, Lee JY, et al. Fluoroscopy-guided pudendal nerve block and pulsed radiofrequency treatment - A case report. *Korean J Anesthesiol* 2009; 56: 605-608.
8. Filler AG. Diagnosis and treatment of pudendal nerve entrapment syndrome subtypes: Imaging, injections, and minimal access surgery. *Neurosurg Focus* 2009; 26: E9. https://thejns.org/focus/view/journals/neurosurg- focus/26/2/article-pE9.xml. Date Accessed 02/12/2022.