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HERPES SIMPLEX VIRUS-1 COMPLICATED BY POSTHERPETIC NEURALGIA: A CASE REPORT

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Background: The following case describes management of severe persistent vulvar pain from postherpetic neuralgia through a ganglion impar block.

Case Report: A 21-year-old female patient initially presented with genital lesions consistent with herpes simplex virus-1 (HSV-1) and antibody testing suggestive of primary HSV-1 infection. After her genital lesions resolved, she continued to have severe persistent vulvar pain and was diagnosed with postherpetic neuralgia, approximately one year after initial presentation. After unsuccessful medical management with her gynecologist and primary care physician, she was referred to a specialty pain management clinic, where a ganglion impar block was performed and provided significant pain relief.

Conclusions: Genital HSV-1 is a rare cause of postherpetic neuralgia which can cause debilitating pain. Its management requires a multidisciplinary approach, including gynecology, pain management, physiatry, and if appropriate, behavioral health.

Key words: Vulvar pain, postherpetic neuralgia, ganglion impar block, genital pain, case report

BACKGROUND

Although genital herpes is typically associated with herpes simplex virus-2 (HSV-2), its incidence from HSV-1 has increased. In women, primary HSV lesions typically involve the vulva, vagina, and cervix (1). Complications of HSV include increased transmission rates of HIV, neonatal herpes, frequent recurrence, and rarely, life-threatening infections (2). HSV-1 can result in postherpetic neuralgia in the form of facial pain; however, to our knowledge, no cases of genital HSV-1 leading to postherpetic neuralgia have been reported in the literature (3). Chronic vulvar pain from postherpetic neuralgia has been observed originating from reactivation of varicella zoster virus (VZV) (4). Postherpetic neuralgia is a chronic pain condition that is often associated with allodynia and areas of anesthesia and hyperalgesia. Treatment includes neuropathic medications, such as tricyclic antidepressants, gabapentin, and pregabalin. However, for patients that continue to have pain, interventions, such as sympathetic nerve blocks or neuromodulation, can provide relief (5). Ganglion impar blocks have been shown to be effective for perineal pain related to malignancy, coccygodynia, and other etiologies (6-8). We present a patient with persistent vulvar pain from postherpetic neuralgia, likely secondary to HSV-1 who experienced substantial pain relief from ganglion impar blocks after incomplete relief of her debilitating pain after medical management.

CASE PRESENTATION

A 21-year-old woman with a history of anxiety and no known previous history of HSV initially presented to an outside gynecology office with painful vulvar ulcers. She did not have type-specific virologic testing of the lesions

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by culture or a nucleic acid amplification test (NAAT). However, she had antibody testing which, at the time of presentation, demonstrated negative HSV-1 and HSV-2 IgG; and 3 months later, testing demonstrated elevated HSV-1 IgG. She was treated with oral antiviral medication and had demonstrated relief. Four months after initial presentation, she had continued pain, at which time a pelvic ultrasound and computerized tomography were performed and were normal. Additionally, she had gonorrhea and chlamydia testing that was negative. Ten months after her initial diagnosis, the patient presented to our center with continued "throbbing vulvar" pain most notably around the clitoris. The pain was constant, increased with changes in position, interfered with daily activities, and was progressively worsening. Her genital exam demonstrated pain localized to the clitoral hood with Q-tip testing. She had normal female genitalia with no visible vulvar lesions. Her speculum exam demonstrated normal vaginal mucosa and a normal-appearing cervix. On bimanual exam, she had no uterine or adnexal masses or tenderness and no cervical motion tenderness. At the time of presentation to our center, in addition to her oral contraceptive pill, she was taking the following medications: valacyclovir 1gm daily, gabapentin 600 mg 3 times per day, nortriptyline 75 mg daily, and bupropion XL 150 mg daily. Her medications were modified to add topical amitriptyline 2%, continue valacyclovir and bupropion XL, decrease gabapentin to 300 mg 3 times per day, and decrease nortriptyline to 50 mg daily. She had testing for gonorrhea, chlamydia, trichomonas, candida, bacterial vaginosis, and urinary cultures, all of which were negative. Thus, she was diagnosed with postherpetic neuralgia. Her medication regimen was further modified discontinuing gabapentin and starting pregabalin 100 mg 3 times daily. After minimal relief from medication modifications, the patient was subsequently referred to pain management for further evaluation.

At the pain management clinic, the patient reported her pain increased with position change, sitting, standing, walking, twisting, menses, and sexual intercourse. Her pain was worse at night and interfered with sleep, self-care, work, driving, exercise, traveling, and household chores. She also reported incomplete bladder emptying without urgency. She rated her pain a 6/10 in intensity and demonstrated significant impairment in her health-related quality of life on standardized assessments, including moderate-to-severe pain interference, with severe anxiety, moderate depression, sleep disturbance, and impairment in physical function (Patient-Reported Outcomes Measurement Information Systems). Her musculoskeletal physical exam was normal.

It was recommended to continue with medication adjustments and schedule a ganglion impar block, which was ultimately performed approximately one month later, with a mixture of 10 mg dexamethasone and 3 mL of 0.25% Marcaine under fluoroscopy guidance (Fig. 1). No adverse events were noted. At her follow-up appointment 2 months after her procedure, the patient reported significant pain relief, with some pain-free days, and improvement in overall functioning. The patient was then scheduled for a repeat ganglion impar block 6 weeks after her initial block as the relief was starting to wear off. At her follow-up appointment 10 days after her second block, she reported her pain as intermittent rather than constant. The patient was continued on pregabalin 150 mg 3 times daily, topical amitriptyline 2% up to 4 times daily, desvenlafaxine, and referred to a physiatrist to initiate pelvic floor therapy and an urologist to address her incomplete bladder emptying symptoms. The patient was also encouraged to follow-up with her behavioral health provider as her pain had become emotionally debilitating.

DISCUSSION

Genital herpes is estimated to be prevalent in about 400 million people worldwide (1,2). HSV-1, in recent years, has been found to be readily increasing (1,9). In rare cases, HSV-1 can lead to complications, such as postherpetic neuralgia (3).

Overall, it is important for providers to develop a multidisciplinary approach for patients early after diagnosis to improve overall treatment outcomes.

Although uncommon, postherpetic neuralgia can be a source of chronic vulvar and perineal pain (10). While postherpetic neuralgia usually occurs after reactivation of VZV, known as shingles, it can also arise from HSV-1. Similarly, patients with previous HSV-1 can develop chronic pain in the areas of their healed lesions, although the incidence is unknown (3). Postherpetic neuralgia is associated with aching, sharpness, deficits in pinprick, vibration, hyperalgesia, and analgesia. Pain severity differs among patients; however, it can be constant and disrupt daily function for some. Treatment options range from conservative approaches, such as physical therapy and oral medications, such as gabapentin and amitriptyline, to more invasive procedures,

such as botulinum toxins, nerve stimulators, or sympathetic blocks (5).

The ganglion impar or ganglion of Walther is the termination of paravertebral sympathetic chain nerves of the perineum, rectum, anus, distal urethra, lower vagina, and vulva as well as the sympathetic fibers of innervating pelvic organs (11). It is typically located anterior to the sacrococcygeal ligament (12). Blockade of this ganglion is used to treat sympathetic and perineal pain of many different etiologies (7). Importantly, the use of ganglion impar blocks has been shown to reduce opiate usage and polypharmacy (13).

The evidence of ganglion impar blocks for pelvic pain is emerging, demonstrating efficacy in several studies (10,14-16). McAllister et al (10) describe a case of a patient with pelvic pain secondary to postherpetic neuralgia from VZV who was successfully treated with a ganglion impar block. The patient's blocks were repeated 3 times with relief lasting about 5 months after each block (10). Additionally, Malec-Milewska et al (15) report on 9 women who underwent ganglion impar blocks for malignancy-related pelvic pain, pelvic pain after hysterectomy, degenerative spine disease, or chronic cystitis. They found that patients had pain relief from 4 weeks to 3 years, and 4 women had complete cessation of pain (15). Moreover, Le Clerc et al (16) performed a retrospective study to observe the efficacy of 3 repeated ganglion impar blocks in patients with chronic pelvic pain and perineal pain. Eighty-three patients were included, 75 opted for a second block, and 62 opted for a third block. The authors found that the Visual Analog Scale score was significantly reduced after each block and over time (16).

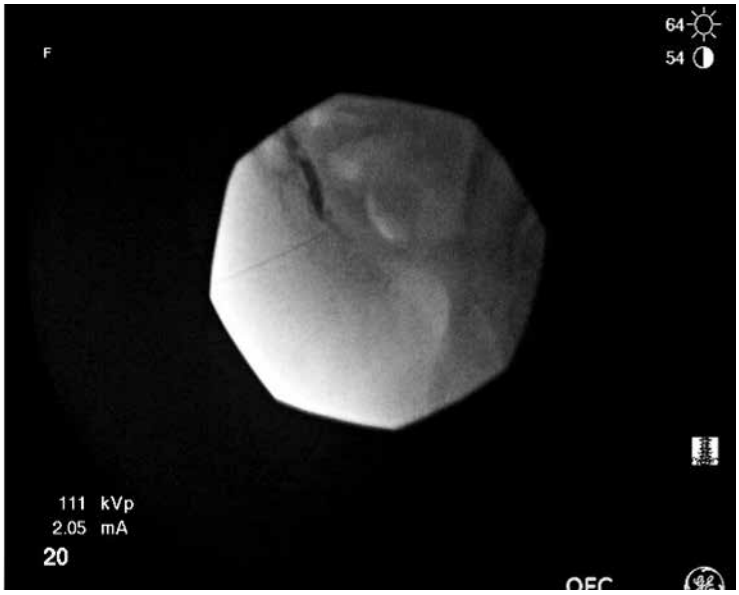

Fig. 1. First ganglion impar block.

CONCLUSIONS

In this case, although there was not a definitive diagnosis via culture or NAAT, antibody testing suggested primary vulvar HSV-1. The presentation of subsequent postherpetic neuralgia demonstrates a rare, previously unreported sequela of likely genital HSV-1. We present a novel treatment approach to this condition, which provided significant symptom relief and improvement in quality of life for a patient who had significant symptoms for nearly a year before presentation. Clinicians should be aware of this presentation of likely vulvar HSV-1, the need for prompt evaluation and management, including type-specific virologic testing, and the improved patient outcomes from a multidisciplinary approach, including pain management, physiatry, and behavioral health.

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