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CASE STUDY A-10

Intractable Post-Herpetic Itching with Sacral Dermatomal Involvement: A Case Report

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Abstract

Background: Post-herpetic itching [PHI] was found in four percent of all herpes zoster patients. They may even describe this itching complaint without any pain. It may not respond to regular anti-pruritus drugs or anti-histaminics. Sympathetic nerve block has been used with different degrees of success as a component of therapy for post-herpetic neuralgia [PHN] in cranial, cervical, thoracic, and lumbar distributions. Sacral dermatomal involvement of PHN occurs in only three percent of patients.

Findings: A 40-year-old female patient had a complaint of intractable sacral itching. She had a total colectomy operation one year ago. At the early postoperative period, vesicular lesions appeared at the sacral region. These vesicular lesions were completely healed after anti-viral medications. However, the complaint of itching started thereafter. The patient was treated with various anti-itching medical therapies at different hospitals. We started gabapentin by increasing the dose from 1.8 to 2.4 mg/day. With a partial response to this medical treatment, impar ganglion blockage was performed five times with two- or three-day intervals in a two-week period. After six months, the itching had completely subsided without any recurrence.

Conclusions: Clinical experiences show that the treatment of neuropathic itching is far more difficult than neuropathic pain. Sympathetic nerve blocks can also be combined with medical treatments. Impar ganglion block has an important role in the early aggressive treatment of zona at sacral dermatome. There are very rare cases in the literature showing that PHI can be treated with a sympathetic block.

Keywords: Itching, sympathetic block, interventional, herpes zoster

INTRODUCTION

Post-herpetic neuralgia [PHN] is a chronic pain syndrome that can last for years and is resistant to treatment. It is a consequence of the reactivation of a varicella zoster infection at sensory ganglions. Rashes are painful and are seen all the way through nerve dermatomes. Classic symptoms are rashes and burning pain; however, intractable itching may also be a dominant symptom. This is defined as post-herpetic itching [PHI]. PHI can be seen in the region of an acute zona rash similar to PHN. PHI is especially prevalent after neck and facial rashes. It is reported that pain and itching are not simultaneous, which means itching may be seen without pain (1–4). There are limited data in the literature about PHI with sacral dermatome involvement. This case report presents an intractable PHI which is successfully treated with a gabapentin and impar ganglion blockage.

CASE REPORT

A 40-year-old female patient was admitted to our algology outpatient clinic with the complaint of intractable peri-anal itching and anogenital pain. She had a history of a total colectomy one year ago due to colonic inertia. Vesicular lesions appeared unilaterally at S3, S4, S5 of sacral dermatome in the early postoperative period. After a definitive diagnostic study was performed for herpes zoster, anti-viral treatment was started promptly and those vesicular lesions disappeared after two weeks of anti-viral therapy. However,

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itching and pain complaints commenced just after the lesions disappeared. Although various kinds of medications such as antibiotics, anti-fungals, anti-virals, anti-histaminics, tricyclic anti-depressants, and many non-narcotic analgesics were administered, no positive response could be achieved.

After the first evaluation at the algology outpatient clinic, a dermatology consultation was requested. The consultant reported that there were likenified, plaque-shaped excorified small fields in patches at the labia majoris and anal region. There were also increased brown pigmentation, granulation, and ulceration tissues in patches.

Gabapentin was started in incremental doses. Neuropathic pain and itching decreased after a 1.8 mg/day dosage. Pain score [visual analog scale] decreased from 8 to 6. When we increased the dosage to 2.4 mg/day, the pain score decreased from 6 to 4. To decrease the pain even more, an impar ganglion blockage was planned. In the operation room, a 22-gauge spinal needle was inserted toward the anterior side of the sacrococcygeal joint under sterile conditions after skin infiltration with a local anaesthetic. A C-armed scope device was used for radiological imaging. The insertion was performed at a 30° slope. An accurate position was confirmed with a radio-opaque material injection, and 10 mL of 0.25 percent bupivacaine and 80 mg of triamsinolone acetate injection was given thereafter. The pain complaint subsided completely and the itching decreased for more than 24 hours. When these complaints appeared again, the same block was repeated 48 hours after the first block with 10 mL of 0.25 percent bupivacaine and 40 mg of triamsinolone acetate. The patient was discharged on the fifth day after the second block. Two weeks later, the patient was admitted for a control examination. The complaints decreased and the ulceration was healed. Three more impar ganglion blocks were performed. In every block, the triamsinolone acetate dosage was half of the previous one with the same bupivacaine dosage. Six months later, the patient was admitted for a control examination again. There was no pain or itching at all. The patient's outcome was very satisfactory.

DISCUSSION

Itching is defined as an unpleasant cutaneous sense which results in scratching (4). Itching has a physiological, self-protective mechanism like other cutaneous senses [pain, touch, vibration, cold, and hot]. The most frequent causes of itching are cutaneous inflammation and serious systemic diseases. Some neurological anomalies can also cause itching as well. Neuropathic itching may be originated from anywhere on afferent pathways. It may be independent from peripheral stimulation and originate from the central nervous system as well. Unlike the polimodal nociceptors of the pain process, itching is transmitted by specific C neurons (4,5).

Today, zona disease is probably the most frequent reason for focal neuropathic itching. And 13 percent of itching patients suffer from a herpes zoster infection. Zona patients may also describe neuropathic itching without pain. PHI may be so severe that the patient's whole protective skin layer is damaged and lost (1,2). Likewise, our patient also had an itching complaint more dominant than pain.

The mechanism of PHN and PHI is not completely understood yet. It is suggested that peripheral sensorial neuron loss may be involved in this process. In light of recent information, itching and pain have surprisingly similar mechanisms of both peripheral and central neuronal sensitization. Also, itching and pain have surprisingly similar mediators (6,7).

After zona-related nerve damage and inflammation, interconnections that are not normally present appear between primary sensorial neurons and post-ganglionic sympathetic neurons. Wu et al. (8) suggested that conventional sympathetic blocks can be performed to decrease acute herpes zoster pain, to prevent PHN, and to decrease pain after PHN development (2).Sympathetic nerve blocks have been successfully performed for many years in combination with medical therapy in the treatment of pain associated with acute zona zoster with cranial, cervical, thoracic, and lumbar involvement and PHN for many years successfully (2,3). Because of difficulties in the feasibility of randomized controlled studies in this specific field, the application of sympathetic blocks is still controversial for the purpose of PHN pain relief (9,10).

There is an analysis of epidemiological data of 586 adult patients from three independent multi-center studies from Oaklander et al. (11).The itching described in these data was localized to the zona-affected regions and the severity was only mild to moderate. The itching was usually seen in the acute phase of zona zoster and was accompanied by PHN. It was reported that there was no significant age difference between the PHI and non-itching groups. There were significantly more female patients in the PHI group. The head was more affected than the trunk in the PHI group.

Clinical experiences show that the treatment of neuropathic itchingis more difficult than neuropathic pain. Although anti-histaminics are effective against itching associated with dermal inflammation,

neuropathic itching does not usually respond to antihistaminics or other anti-pruritus drugs (4). Likewise, our patient had no positive response to these antihistaminics or other anti-pruritus drugs and medical therapies.

There is a complex interconnection between the pathways of itching and pain. Peripheral and central sensitization may both contribute to chronic itching. There is a similar structure between the central sensitization of itching and pain. Therefore, drugs for neuropathic pain can be used for itching as well. However, the best treatment of PHN and PHI is not just one drug (4). Studies showed that carbamazepine, gabapentin, and pregabalin are also successful against neuropathic itching (12). Gabapentin and pregabalin inhibit α2δ sub-units of voltage-gated Ca^{2+} channels. There are case reports that indicated gabapentin is effective against itching associated with cutaneous and systemic diseases, itching associated with multiple sclerosis, and brachioradial itching (13,14). Likewise, gabapentin therapy had a positive impact on our patient against intractable itching.

The sacral dermatomal involvement of PHN and zoster is very rare, but can still cause severe pain (3). The efficacy of a sympathetic block in the treatment of pain associated with PHN is controversial. There are not enough randomized controlled studies; sympathetic nerve blocks can be used in combination with medical therapies (2,3). An impar ganglion blockage may also have a positive role in pain therapy (15,16). With a low complication rate, an impar ganglion block has a very important role in the early aggressive treatment of sacral dermatomal zona (3). However, there are few studies associated with PHI. Gabapentin has been shown to be successful against intractable itching (4,12–14), but there is only one case report in the literature which suggests that a sympathetic block is effective against PHI (2).

In conclusion, intractable itching and pain with sacral dermatomal involvement can be successfully treated with gabapentin and an impar ganglion blockage. However, the outcome of this patient should be interpreted with caution; there is still a need for many studies to investigate the role of this treatment method against PHI.

DECLARATION OF INTEREST

The authors report no conflicts of interest.

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