

Postherpetic pruritus an underreported complication of herpes zoster infection: A case report and literature review

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Abstract Postherpetic pruritus (PHP) is a complication of herpes zoster infection that is not commonly reported. However, some cases describe severe disabling postherpetic pruritus. PHP may become unnoticed and thus inadequately managed. A 66-year-old woman complained of intense pruritus on the lower back and buttocks area one month after herpes zoster infection appeared at that location. Gabapentin 300 mg once a day was prescribed and the pruritus sensation was significantly reduced. Few studies report the epidemiology, clinical presentation, and standard treatment of PHP. It can happen alone or in combination with postherpetic neuralgia. The pathophysiology of PHP remains to be determined. Disability and injury may happen as a consequence of PHP. There are several treatments suggested for PHP but all are limited to case reports. PHP is an underreported complication of herpes zoster that must be taken seriously. Our case was an elderly woman diagnosed with PHP. She suffered moderate pruritus which disturbed intensely her quality of life and was improved significantly with gabapentin.

Key words

Postherpetic pruritus, complication, herpes zoster.

Introduction

The most frequent known complication of herpes zoster infection is postherpetic neuralgia (PHN). PHN develops in 10% of patients, but some patients also complain of itch that can be more disturbing.¹ Postherpetic pruritus is not frequently reported as a complication since pain prevails in the majority of patient. It can occur alone or in combination with postherpetic neuralgia. Despite its potential for causing disability and injury, reducing the quality of life, there have been few studies that reported the

epidemiology, clinical presentation, and standard treatment of PHP.²⁻⁴

Case report

A 66-year-old patient was referred from the oncology radiation department with chief complaint of intense pruritus in the lower back and buttocks area for one month. No pain was felt by the patient. The patient was diagnosed with cervical cancer five months ago. She underwent a combination therapy of radiotherapy and chemotherapy that was completed one week ago. She admitted there were pruritic grouped vesicles that appeared after the radiotherapy session. The vesicles disappeared in a couple of days and left hyperpigmented lesions, but pruritus persisted. The pruritus disturbed her daily activities and sleep. She was given cetirizine 10 mg once a day

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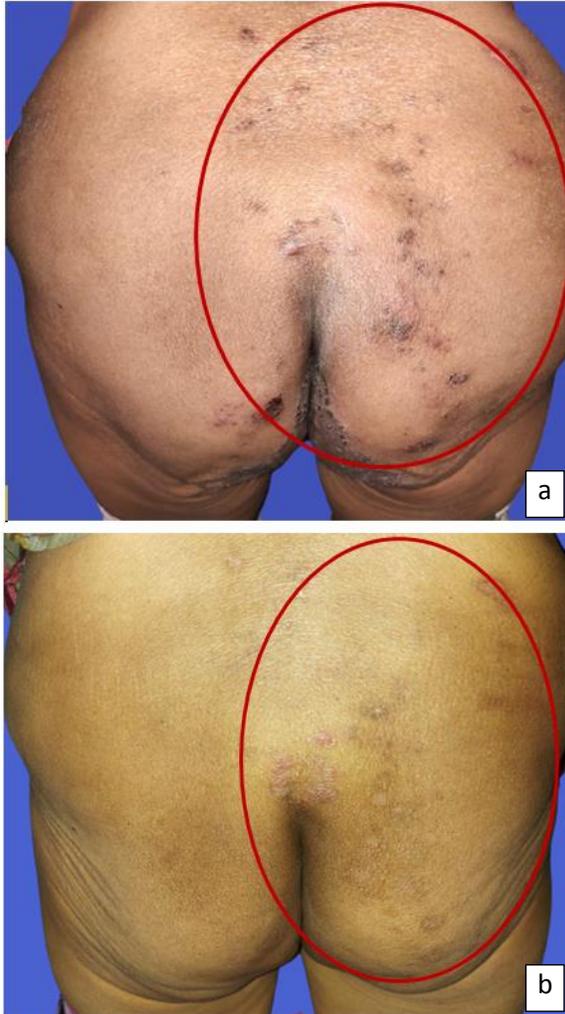


Figure 1 Hyperpigmented plaques with red and black crust on the lower back and buttocks, dermatome L5-S2 on the first visit (a). Hyperpigmented macules and plaques after two weeks of therapy (b).

by the oncologist but no improvement was noticed. She was never been diagnosed with herpes zoster infection nor given acyclovir by the oncologist.

Investigations

Physical examination The patient vital signs were within normal limits. Dermatological examination revealed multiple, discrete, and confluent hyperpigmented plaques with red and black crust on the lower back and buttocks, between the dermatome L5-S2 (**Figure 1a**). No other similar lesions were observed in other

parts of the body. The average itch visual analog scale (VAS) was 7.

Laboratory data The red blood cell count was slightly low (10.8 g/dL). Except for slight anemia, other laboratory results were unremarkable.

Diagnosis Based on the history taking and physical examination that consisted of dermatomal post-inflammatory hyperpigmentation, we diagnosed the patient with postherpetic pruritus.

Treatment The patient was treated with gabapentin with an initial dose of 100 mg once a day which gradually increased to 300 mg once a day and petrolatum jelly applied on the lesion twice a day.

Outcome and follow up Two weeks later the patient admitted that the pruritus was significantly reduced. The itch VAS was decreased to two. No new lesion appeared and the previous lesions began to fade away. On the physical examination, hyperpigmented macules and plaques on the dermatome L5-S2 were observed (**Figure 1b**).

Discussion

Postherpetic pruritus is defined as chronic pruritus that persists after the onset of herpes zoster in the dermatomes that were previously affected. The prevalence of PHP varies from 7% to 58%. PHP occurs more commonly in patients between 61-70 years. Patients who are diagnosed with herpes zoster on the head, face, or neck are more likely to endure PHP.^{3,5,6} Our patient's age corresponds to the age group in which PHP happens the most. The location of the lesion is not typical but we cannot disregard the possibility of PHP.

The severity of PHP can be assessed with VAS and rated as mild (≤ 3), moderate (4-7), and severe (≤ 8). Patients will only experience mild pruritus (54.71%) generally. Our patient endured a moderate PHP that can happen in 28.3% cases of PHP. PHP can happen alone or in combination with PHN. Mittal *et al.* reported 46% of patient had both pain and itch, whereas 7% of patient only had itch.⁵

The pathophysiology of PHP remains to be determined. Two mechanisms of pruritus are suggested in the case of herpes zoster infection. In the first mechanism, neurogenic itch occurs. During the acute period, histamine takes a major role in this procedure. In the second mechanism, pruritus is caused by neuropathic itch after neural injury. This mechanism happens usually after the rash disappears, during the chronic phase.^{2,3,7} In our patient, pruritus happened since the rash appeared and did not subside even though the rash began to disappear. Both pruritus mechanisms might occur alternately in our patient.

The patient was never diagnosed with herpes zoster during her radiotherapy session, even though the symptoms were quite obvious, thus she never received acyclovir. Fast treatment with antiviral drugs has been proved to reduce the severity and complications of herpes zoster infection.⁸ Therefore, prompt and correct diagnosis is needed.

We conducted a review of literature and found seven cases of postherpetic pruritus. These cases are summarized in **Table 1**.

The treatment of PHP may be difficult since neuropathic itch may not respond to antihistamines or to other antipruritic medications.^{3,6} Gabapentin has been reported successfully to treat PHP. Several other interventions have been proposed to manage PHP, such as pregabalin, acyclovir, amitriptyline and ketamine gel, carbamazepine, hydroxyzine, pulse radiofrequency and serial stellate ganglion blocks with bupivacaine.

Table 1 Reported cases of PHP

References	Age	Gender	Treatment	Outcome
Shimada [2]	52	F	Pregabalin (25 mg a day).	The severity of the itch was reduced to VAS 1 after 1 month.
Hassan [3]	57	F	Acyclovir (800 mg, 5 times a day), gabapentin (600 mg, 3 times a day), hydroxychloroquine (200 mg, twice daily) and prednisone (2.5 mg, once daily).	Significant improvement after 8 weeks.
Semionov [6]	22	M	Carbamazepine (200-400 mg/day), hydroxyzine (50 mg/day)	The pruritus resolved after 2 weeks.
Jagdeo [9]	40	F	Gabapentin.	Complete resolution after 3 weeks.
Griffin [10]	64	M	Topical 2% amitriptyline/0.5% ketamine gel, hydrocortisone cream 2.5% (twice daily), dilute acetic acid, gabapentin (400 mg, three times a day), topical lidocaine patches and oral hydroxyzine (25 mg daily).	Modest improvement of the pruritus.
Ding [11]	56	M	Pulse radiofrequency, gabapentin (300 mg once a day)	Complete resolution after 12 weeks.
Peterson [12]	10	M	3 sequential stellate ganglion blocks with 5.5 ml of 0.25% bupivacaine.	Significant improvement after 4 months.

Unlike postherpetic neuralgia, there is no clinical trial for the treatment of PHP. PHP treatments are limited to case report.^{2,3,6,7,9-12} Our patient was treated with gabapentin which was titrated to 300 mg a day that proved to be effective. There was a significant reduction of pruritus after two weeks of treatment. No side effect was observed.

Complications such as ulcer or other injuries may arise after constant scratching. Some patients consider chronic pruritus is more severe than chronic pain because of the potential disability. Chronic pruritus may give considerable problem but this received not enough attention.^{2,7} We did not find any injury in our patient, but the intense pruritus disturbed heavily her quality of life.

Conclusion

PHP is an underreported complication of herpes zoster that must be taken seriously. Our case was an elderly woman diagnosed with PHP. She suffered moderate pruritus which disturbed intensely her quality of life and was improved significantly with gabapentin.

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