

Relieving the Rash

Solutions for Shingles

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Shingles (herpes zoster) is a common condition with significant morbidity. It is a localized disease characterized by unilateral radicular pain and a vesicular eruption that is usually limited to the dermatome innervated by a single spinal or cranial sensory ganglion. Post-herpetic neuralgia (PHN) is the most common debilitating complication in patients older than age 50.

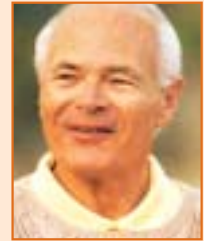
What is the pathogenesis?

Shingles is caused by the varicella zoster virus (VZV), which causes chickenpox, reactivated from latency. Anyone who has had chickenpox is at risk for shingles and the VZV vaccine may not prevent attacks of shingles.

VZV resides in the dorsal root ganglion during the latent phase. Reactivation is associated with

Jack's case

- Jack, 74, presents with a maculopapular, erythematous area containing some vesicles.
- The lesions have been spreading distally for a week in the T3-T4 dermatome.
- The lesions do not cross the midline.
- Jack reports a stabbing pain in the affected area five days before the lesions appeared.



Complications of herpes zoster are minimized with prompt treatment. The most common complication is post-herpetic neuralgia.

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Diagnosis?
Initially, the herpes zoster lesion is a maculopapular, erythematous area, developing into fluid-filled vesicles within 12 to 24 hours of onset. Lesions typically spread from proximal to distal portions of

the skin within three to five days. The vesicles become pustules, dry out and crust within the first week. Complete resolution normally occurs within two to four weeks with minimal scarring. Scarring is more likely if the lesions become secondarily infected.

The best clue for diagnosing shingles is a lesion that does not cross the midline. One to three adjacent dermatomes may be affected. Specific

Table 1

Herpes zoster distribution

| Region | Frequency |
|-------------|-----------|
| Thoracic | 55% |
| Cranial | 25% |
| Lumbar | 14% |
| Cervical | 12% |
| Sacral | 3% |
| Generalized | 1% |

Table 2

Risk factors for developing PHN in patients with herpes zoster

- Older age
- Female
- Presence of a prodrome
- Severe acute pain
- Severe rash assessed within three days following onset of zoster

PHN: Post-herpetic neuralgia

investigations for diagnosing shingles are seldom required, but may include serology, viral culture, electron microscopy or checking HIV status in certain cases.

What is the clinical course?

The duration typically ranges from one to four weeks. Pain is present at all stages (before, during and after the onset of lesions). The associated pain may be burning, stabbing, throbbing or sharp. The pain normally subsides with the disappearance of the rash.

What are the complications?

Although the majority of patients with shingles see complete resolution after two weeks, 20% of patients will experience at least one complication. Complications may be neurologic (*i.e.*, PHN, transverse myelitis, Guillain-Barré Syndrome, motor neuropathies), ocular (*i.e.*, keratitis, conjunctivitis,

uveitis, neuritis of optic and motor nerves, secondary glaucoma, lid ulceration, retinal necrosis), cutaneous (*i.e.*, scarring, bacterial superinfection, herpes gangrenosum) and/or visceral (*i.e.*, especially in immunocompromised patients: pancreatitis, pneumonitis, myocarditis).

The most common and the most important reason for expedient antiviral treatment is PHN (Table 2). PHN refers to the presence of pain in the affected area for more than one to three months after the resolution of shingles.

PHN commonly affects the elderly (Table 3) and can be devastating for patients. The pain associated with PHN is chronic and unrelenting. Depressed mood, sleep disturbance, lassitude, constipation, social withdrawal and decreased libido are other symptoms of PHN.

What is the evidence-based treatment?

The treatment goals include symptomatic relief, reducing the skin lesions, decreasing the risk of scarring and the occurrence of PHN (Table 4). The symptomatic pain and itching caused by shingles may be relieved by cool baths, calamine lotion, ice, acetylsalicylic acid, acetaminophen, and non-steroidal anti-inflammatory drugs.

Since the introduction of acyclovir 20 years ago,

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Table 3

Age and increasing risk of experiencing PHN

| Age | PHN risk |
|--------------|----------|
| 50 to 59 | 50% |
| 60 to 69 | 65% |
| 70 and older | 70% |

PHN: Post-herpetic neuralgia

antivirals have been established as the gold standard in herpes virus therapy. The overall data show that oral antivirals (acyclovir, famciclovir and valacyclovir) are free of major toxicities and that their side-effects are comparable to placebo. Post-trial case reports of anaphylaxis and renal failure have been cited and dose adjustments should be made for patients with compromised renal function.

The key to the antiviral efficacy is their use in the acute VZV reactivation phase, when the virus is proliferating. Antivirals should normally be used within 48 hours of shingles onset. If the patient is older than 50, immunocompromised or if new vesicle formation is still occurring, the antivirals may be effective when given 72 hours after shingles onset. There is insufficient data to address the use of antivirals initiated more than 72 hours after rash onset, hindering clinical extrapolation of study results, as the largest zoster study showed that only 44% of zoster patients actually presented within 72 hours of onset.

Acyclovir was the first specific, effective and orally available antiviral medicine. Its main drawback is its poor absorption and a high oral dose is required (800 mg, orally, five times daily, for seven to ten days). Four placebo-controlled trials of acyclovir with 692 patients showed evidence for a reduction in pain incidence at one to three months following zoster onset.

Table 4

Treatment summary

First Line

- Acyclovir
- Famciclovir
- Valacyclovir

Second Line

- Agents to reduce post-herpetic neuralgia
- Tricyclic antidepressants (e.g., amitriptyline)
- Gabapentin

Third Line

- Topical capsaicin
- Corticosteroids
- Topical lidocaine
- Transcutaneous electrical nerve stimulation

Valacyclovir, a prodrug of acyclovir, is absorbed better and has been shown to be effective against zoster-associated pain. A trial of 1,141 patients, comparing acyclovir and valacyclovir found that valacyclovir (1000 mg, orally, three times daily, for seven days) significantly reduced the duration (by one to two weeks), but not the incidence of PHN.

Famciclovir is also relatively well-absorbed and can be given to patients with shingles at a dose of 500 mg, orally, three times daily for seven days, decreasing the duration of PHN by a mean of 100 days (a more rapid pain resolution than treatment with acyclovir).

Jack's recommendations

Our patient was recommended calamine lotion, cool baths and an oral analgesic acetylsalicylic acid to help alleviate pruritis and acute pain. An oral antiviral agent was started immediately.

Since Jack is older than 50, amitriptyline, 25 mg, nightly for 90 days, was also started to help reduce PHN incidence and duration.

FAQ

1. Why is shingles painful?

The pain accompanying shingles may be attributed to severe inflammation and destruction of the involved dorsal root ganglia and nerves.

2. What does “prodromal phase” refer to?

Some patients may experience pain, numbness and tingling in an area of skin one to 14 days prior to the development of erythema and vesicles. The incidence of prodromal pain is age-dependent (17% of patients younger than 20 years report pain compared to 85% of patients older than 50 years).

3. What symptoms may accompany shingles?

Other symptoms of shingles may include nausea, vomiting, headache, malaise, fever and lymphadenopathy.

4. What is the cause of post-herpetic neuralgia?


PHN represents VZV-caused neuropathic damage resulting in hyperalgesia (decreased pain thresholds) and allodynia (pain caused by normally innocuous stimuli).

5. Why is it important to treat shingles?

Treatment with oral antivirals reduces symptomatic pain, scarring and further complications of shingles.

Adjunctive treatment possibilities also exist for shingles and its complications (especially PHN) (Table 4). PHN does not often respond to conventional analgesics. Tricyclic antidepressants and gabapentin should be considered in all patients, but may be especially important in patients over age 50. Amitriptyline, 10 mg to 25 mg at night, may be prescribed at shingles onset. Bowsher showed that amitriptyline, 25 mg, given nightly for 90 days, initiated within 48-hours of rash onset, decreased pain incidence at six months in a placebo-controlled trial of 80 patients. It is important to reassure patients that a benefit may not be apparent for several weeks or months.

There is no definitive evidence suggesting oral corticosteroids prevent or shorten the course of PHN. However, they may reduce pain and improve quality of life within the first month. There is limited evidence for topical therapies in treating PHN. Capsaicin 0.075% cream was shown to be effective in a randomized, controlled trial involving 143 patients.

Prompt diagnosis and early comprehensive treatment of shingles with antivirals will result in quicker resolution of acute symptoms and reduce the risk of developing long-term complications. 

References available—contact *The Canadian Journal of Diagnosis* at diagnosis@sta.ca.