Rash: Is It Shingles?

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Case Presentation: Mrs. Smith, a 56-year-old Caucasian woman, was seen in the office for complaints of a rash at her waist. She completed three cycles of dose-dense cyclophosphamide and doxorubicin chemotherapy for stage III breast cancer. The third cycle was 10 days prior. Grade III neutropenia was the only complete blood count abnormality.

Mrs. Smith reported that the rash started that morning. Before observing the rash, she had been experiencing burning pain around the waist, itching, fatigue, and muscle aches for the past three to four days. She did not have a fever. She denied any new soap, detergent, or clothes, and no one in her household had similar complaints.

Physical examination revealed clustered lesions on the left side of the abdomen at waist level. Lesions were erythematous plaques with a few vesicles.

Based on patient history and physical examination, Mrs. Smith was diagnosed with herpes zoster, commonly known as shingles.

Definition

Varicella zoster virus (VZV) is responsible for the common childhood infection chicken pox (Gross et al., 2003). Herpes zoster develops as a cutaneous vesicular infection along a nerve dermatome as a result of reactivation of the dormant VZV (Gross et al.; Habif, 2001).

Incidence

Although herpes zoster can affect people of all ages, the incidence increases with age (Ferri, 2005; Gross et al., 2003; Habif, 2001).

- Herpes zoster generally affects people older than age 50.
- The cumulative lifetime incidence is 10%-20%.
- The rate of herpes zoster episodes is higher in Caucasians than African Americans.
- Regardless of age, immunocompromised individuals have an increased risk of developing herpes zoster.
- The rate of a second VZV infection is approximately 4%.

Pathophysiology

VZV has a latent period following the primary chicken pox infection. The virus remains dormant in the cranial nerve and dorsal root ganglia (Gross et al., 2003; Melton, 2005). The exact mechanism of reactivation is not known. However, a decline in VZV-specific cellular immunity is associated with reactivation. Once reactivated, the virus spreads down the sensory nerve to skin level (Deignan, 2003; Gross et al.; Melton).

Signs and Symptoms

The clinical manifestations of shingles are categorized into two phases: prodromal and acute. During the prodromal phase, symptoms (Deignan, 2003; Ferri, 2005; Habif, 2001; Melton, 2005)
- Occur three to five days prior to cutaneous manifestations
- Involve pain in the affected dermatome that may or may not be accompanied by burning, itching, and/or tingling.
- Symptoms also occur during the acute phase.
  - A rash starts out as erythematous papular lesions, which transform into vesicles prior to rupture and crusting. Lesions resolve in two to three weeks.
  - Lesions are found along a dermatome.
  - The thoracic dermatome is affected most often, followed by lumbar and cranial nerves.
  - The rash may be accompanied by fever, lymphadenopathy, fatigue, headache, and pain.

Differential Diagnosis

During the prodromal phase, various diagnoses may be mistaken for herpes zoster (Deignan, 2003; Ferri, 2005).

- Acute myocardial infarction
- Cholecystitis
- Appendicitis
- Pleurisy

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• Pericardial effusion
• Renal colic or calculi

Diagnostic Tests

Diagnosis of herpes zoster is based on clinical presentation. However, testing may be useful to differentiate the diagnosis, especially in early stages (Deignan, 2003; Ferri, 2005; Gross et al., 2003). Common tests used to diagnosis VZV are viral culture, direct immunofluorescence from a skin lesion, and Tzanck smear.

Red Flags

A physician should be consulted when ocular lesions are present (Deignan, 2003). In addition, consultation is recommended when lesions are present on the nose, cheek, or traverse dermatomes. Patients require hospital admission and IV antiviral therapy for disseminated infection.

Complications

The most common complication associated with herpes zoster is postherpetic neuralgia (Melton, 2005). Other complications to monitor for include (Deignan, 2003; Gross et al., 2003; Hackanson et al., 2005; Melton)

• Secondary bacterial infection
• Ramsey Hunt syndrome, characterized by facial palsy
• Trigeminal nerve involvement that may cause conjunctivitis, corneal ulceration, glaucoma, or blindness
• Disseminated infection, which occurs more often in immunocompromised patients, leading to pneumonia, meningitis, encephalitis, and hepatitis.

Treatment Options

Pharmacologic

The goal of pharmacologic therapy is to shorten the clinical course of VZV infection and to control pain to reduce the incidence of postherpetic neuralgia (Deignan, 2003; Ferri, 2005; Melton, 2005). The goal is accomplished by administering antiviral therapy. Antiviral medication should be initiated within 48 hours of rash onset. Agents and the dosing used are

• Acyclovir 800 mg five times a day for 7–10 days. Adjust the dose for patients with renal failure.
• Famciclovir 500 mg three times a day for seven days. Use with caution in those with renal failure.
• Valacyclovir 1,000 mg three times a day for seven days. Adjust the dose for patients with renal failure. Monitor for thrombotic thrombocytopenic purpura or hemolytic uremic syndrome.

Oral steroids are used to decrease acute pain and initiate a faster resolution of the rash (Habif, 2001; Melton, 2005). However, the use of steroids does not impact the occurrence of postherpetic neuralgia. Suggested steroid dose is prednisone 60 mg per day tapered over three weeks.

Acute pain control is accomplished through the use of various agents such as non-narcotic analgesics, including acetaminophen and ibuprofen (Ferri, 2005; Melton, 2005).

Postherpetic neuralgia requires various agents to control pain. The agents used involve varying actions for symptom control. Agents include narcotic analgesics, tricyclic antidepressants, gabapentin, and topical Lidoderm patch (Ferri, 2005).

Nonpharmacologic

Nonpharmacologic topical therapy is used to remove dried crusts and prevent secondary bacterial infections (Ferri, 2005; Habif, 2001). Cool, wet compresses can be applied as often as 10 times a day for 20 minutes at a time.

Patient Education

Patients and caregivers need to be educated about the infectious process (Deignan, 2003). Herpes zoster is not contagious unless patients come into contact with people who have not had the primary VZV infection of chicken pox. Caution is advised when infected patients are around other immunocompromised individuals. Patients may continue to work.

Case Conclusion

Because the rash had developed in the prior 24 hours, Mrs. Smith was started on famciclovir to shorten the course of infection. She was educated to use acetaminophen for pain control. Instructions were given to apply cool, wet compresses to lesions at least four times a day. Chemotherapy was postponed one week. As a result of prompt intervention, Mrs. Smith recovered without incidence.

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References


