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ELDER CARE

A Resource for Interprofessional Providers

Herpes Zoster (“Shingles”) and Postherpetic Neuralgia

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Herpes zoster, commonly known as “shingles,” is caused by the varicella zoster virus (VZV). It occurs in about 1 million individuals each year in the US. Due to waning cell-mediated immunity over time, age is a major risk factor for herpes zoster with over half of unvaccinated patients 85 years and older being affected.

Clinical Presentation & Diagnosis

VZV is usually acquired during childhood as chickenpox, which is typically symptomatic but occasionally has minimal symptoms. After this initial VZV infection, viral particles travel to cranial and dorsal root ganglia where they are shielded from antibodies. Under conditions of decreased cell-mediated immunity, which occur with aging and also due to disease-induced or medication-induced immune impairment, the virus reactivates and replicates, resulting in herpes zoster.

Zoster begins with a prodrome of malaise, headache, fever, and burning pain. The classic rash follows in two to three days. The rash starts as maculopapular lesions that appear in a single, unilateral dermatome (see figure below). The rash progresses to vesicles that crust over after seven to ten days. Herpes zoster is typically a clinical diagnosis, but polymerase chain reaction testing of vesicle fluid can be used with atypical presentations (95% sensitivity; 100% specificity).

The most common complication of zoster is post herpetic neuralgia (PHN), a syndrome of pain in a dermatomal distribution sustained for at least 90 days after the rash. While rare in young adults, PHN occurs in an estimated 10-13% of patients with herpes zoster age 50 years and older. PHN in older adults can last for years, causing severe and disabling pain. On rare occasions, shingles can cause blindness or hearing loss, and patients may develop pneumonia or encephalitis, which can be fatal.

Management of Acute Herpes Zoster

Ideally, treatment should be initiated within 72 hours of presentation. Antiviral oral guanosine analogues are the mainstay of treatment, with additional medications serving as adjuncts (Table 1). If new lesions develop or ophthalmic or neurologic complications are present, treatment outside the 72-hour window is warranted. Antivirals decrease pain severity and appearance of new lesions by 12 hours, but do not reduce the incidence of PHN.



Shingles

ADAM

Glucocorticoids, in combination with antivirals, reduce acute pain and promote early healing, but they also do not reduce the incidence of PHN. Pain control depends on pain severity. Treatments typically used include acetaminophen, non-steroidal anti-inflammatory drugs, anticonvulsants, tricyclic antidepressants, and/or nerve blocks.

Management of Postherpetic Neuralgia

Treatment options for PHN include both topical and systemic treatments. These are shown in Table 2.

Due to its favorable adverse effect profile, lidocaine 5% patches are considered the first-line therapy for PHN, although evidence supporting its effectiveness is inconsistent. Capsaicin 0.075% cream is another option, also with limited evidence. Capsaicin 8% patches, on the other hand, have shown clear evidence of benefit, but they are associated with skin irritation and pain with application.

Approved systemic treatments for PHN include anticonvulsants (gabapentin and pregabalin), which can achieve up to a 50% reduction in pain (NNT=8 and NNT=4, respectively). Titration to an effective dose can take weeks, however, and adverse effects such as somnolence, may limit their use in older adults. Amitriptyline is sometimes used in younger individuals, but should not be used in older adults due to its anticholinergic effects.

Prevention

Zoster and PHN can be prevented by vaccines, but vaccination rates in older adults are as low as 24% in some studies.

A live VZV vaccine (VZL-Zostavax) and a recombinant vaccine (RZV-Shingrix) are available (Table 3), but RZV is more effective, and it is considered the first-choice vaccine by the Centers for Disease Control and Prevention. RZV is 96%, 97%, and 91% effective in adults aged 50-59, 60-69, and ≥ 70 years, respectively, and protection lasts four years. RZV should be given to all patients in those age groups, including those with a past history of herpes zoster and those with a current acute episode, though in the latter group, vaccination should be delayed until the acute phase of illness is complete. The vaccine is also recommended for those with chronic conditions such as diabetes mellitus, rheumatoid arthritis, chronic kidney disease, and chronic obstructive pulmonary disease.

Because of the more limited effectiveness of the VZL vaccine, the RZV vaccine should be given to patients who have already received VZL, though not sooner than 2 months after VZL.

TIPS ABOUT THE MANAGEMENT AND PREVENTION OF HERPES ZOSTER AND POSTHERPETIC NEURALGIA

- Acute herpes zoster (“shingles”) is a clinical diagnosis with best outcomes occurring when treatment is started within 72 hours using oral antiviral agents in combination with systemic glucocorticoids to decrease pain and shorten healing time.
- The recently approved RZV is the first choice vaccine for preventing herpes zoster and PHN in adults age ≥ 50 .
- Consider vaccinating your patients with RZV even if they have been previously vaccinated with VZL.

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Another aspect of prevention is avoiding spread of infection. Although shingles cannot be spread from one person to another, direct contact with fluid from the blisters in the zoster rash can transmit virus and cause chickenpox in individuals who

have never had chickenpox or received the varicella vaccine. This is of particular concern for older adults who are interacting with unvaccinated grandchildren. Once the rash has crusted over, however, it is no longer infectious.

Table 1: Treatments for Acute Herpes Zoster *

Agent	Dosage	Side Effects	Comments
Acyclovir	800mg PO 5x per day (7 days)	Diarrhea, headache, malaise	Monitor INR in patients taking warfarin
Famciclovir	500mg PO 3x per day (7 days)	Confusion, headache, nausea	Dose adjustment for CrCl <50ml/min
Valacyclovir	1,000mg PO 3x daily (7 days)	Diarrhea, headache, malaise, nausea, vomiting	Dose adjustment for CrCl <50ml/min
Prednisolone	40mg PO daily (21 day taper)	Dyspepsia, nausea, vomiting	Does not prevent post-herpetic neuralgia
Acetaminophen (Tylenol)	325 q4-6 hours PRN; maximum dose in older adults is 3,000 mg/day	Headache, hepatotoxicity	Use lower doses in liver disease
Ibuprofen	400mg PO q4hrs PRN	Abdominal discomfort, dyspepsia, GI bleeding	Avoid in history of renal disease
* None of these medications prevents or reduces the occurrence of post herpetic neuralgia			

Table 2: Treatments for Postherpetic Neuralgia

Agent	Dosage	Side Effects	Comments
Lidocaine 5% patch	Up to 3 patches daily	Blisters, local erythema, rash	Do not use on broken skin
Capsaicin 0.075%	Four applications per day	Erythema, pain, rash	Avoid contact with eyes and mucous membranes
Capsaicin 8% patch	Up to 4 patches for up to 60 minutes Do not apply more often than q3 months	Erythema, pain, rash	Pre-treat area with topical anesthetic prior to applying patch
Gabapentin	300 to 600mg PO 3 times per day	Dizziness, peripheral edema, sedation, weight gain	When discontinuing, taper over 7 days (or longer w/high doses); adjust dose for CrCl <60ml/min
Pregabalin	150 to 300mg PO per day in 2 or 3 divided doses	Dizziness, peripheral edema, sedation, weight gain	Taper when discontinuing; Dose adjustment for CrCl <60ml/min
Amitriptyline	10-25mg PO at bedtime, increase 10 mg per week with goal of 75-150 mg/day	Constipation, blurred vision, dry mouth, sedation, urinary retention	Not recommended for older adults due to anticholinergic effects

Table 3: Zoster Vaccines

Vaccine	Age	Dose/Route	Effectiveness	Comments
Shingrix (recombinant zoster vaccine)	50	2 doses (0 months and 2-6months) Intramuscular	96.6% efficacy (50-59) 97.4% (60-69) 91.3% (>70)	This is the CDC-recommended vaccine Store in refrigerator Adverse events: Injection site redness, pain, swelling
Zostavax (zoster vaccine live)	60	1 dose Subcutaneously	70% (50-59) 64% (60-69) 38% (>70)	Store in freezer Protection decreases 1 year after vaccination By 6 years effectiveness is <35%

References and Resources

- Sagui A, Kane S, Mercado M, Lauters R. Herpes Zoster and Postherpetic Neuralgia: Prevention and Management. *Am Fam Physician*. 2017;96(10):656-663.
- Dooling K, Guo A, Patel M, et al. Recommendations of the Advisory Committee on Immunization Practices for Use of Herpes Zoster Vaccines. *MMWR*. 2018;67(3):103-108.
- Center for Disease Control: <https://www.cdc.gov/shingles/about/index.html> provides useful clinical information

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