NEUROPATHIC PAIN & HERPES ZOSTER

LEARNING OBJECTIVES

• Recognize and describe management of patient with acute herpes zoster infection
• Describe the management of patient with neuropathic pain

HERPES ZOSTER: CLINICAL PRESENTATION

• Herpes zoster (varicella zoster virus) & herpetic neuralgia
  – Dermatomal distribution of neuralgia (neuropathic pain) & vesicles
  – History of childhood chickenpox
  – Often occurs when immunosuppressed
  – If pain persists > 30 days, it is called postherpetic neuralgia

LESION LOCALIZATION

• Left anterior chest just below the nipple on the left
• T5 dermatome is supplied by the T5 nerve root

DIFFERENTIAL DIAGNOSIS

• Herpes zoster (rash + dermatomal neuropathic pain)
  – Dermatomal distribution of neuralgia, blisters, scabs
  – Childhood chickenpox
  – Occurred during pneumonia (relatively immunosuppressed)
• Candida albicans
  – Rash, usually nonpainful
• Monoradiculopathy
  – Diabetes mellitus (nerve-root ischemia)
  – Chronic meningitis (nerve root inflammation)
  – Osteophyte, tumor (nerve-root compression)

EVALUATION

• No diagnostic testing is necessary
• Herpes zoster usually does not recur. If it does, consider evaluation for immunosuppressed state.

FINAL DIAGNOSIS: HERPES ZOSTER & HERPETIC NEURALGIA

• Varicella-zoster virus infection initially produces chickenpox; virus then lies dormant in dorsal root ganglia
• Immunosuppression (e.g., physical or emotional stress, illness, DM, HIV, chemotherapy, cancer) can trigger focal reactivation along a ganglion’s sensory nerve
  – 2-3 day prodrome of dermatomal pain or burning, fever, malaise
  – Thoracic dermatomes are most common
  – Vesicular rash with progression to pustules over several days
  – Pain may or may not subside
• Incidence ↑ with age (↓ immune response with aging)
• Zoster ophthalmicus
  – Reactivation along V1; ocular involvement & vision loss may occur
• Disseminated zoster
  – Can occur in immunocompromised patients
MANAGEMENT: INFECTION

• For most patients, oral antiviral +/- prednisone:
  – Acyclovir (Zovirax) 800 mg 5 times daily for 7-10 days
  – Valacyclovir (Valtrex) 1000 mg 3 times daily for 7 days
  – Famciclovir (Famvir) 500 mg q8h for 7 days

• For immunocompromised patients who are “moderately ill” or have “complication,” IV antivirals should be administered:
  – Acyclovir IV 5-10 mg/kg every 8 hours for 7-10 days
  – Foscarnet (Foscavir) IV 40 mg/kg every 8-12 hours for 2-3 wks

MANAGEMENT: NEUROPATHIC PAIN

• Begin neuropathic pain medications low-dose, increase every 2-4 weeks until efficacy/toxicity ratio is maximized

• Oral medication options include:
  – Antidepressants
    – tricyclic antidepressants
    – others (e.g., SSRIs)
  – Antiepileptic drugs

<table>
<thead>
<tr>
<th>Medication</th>
<th>Starting Dose (mg)</th>
<th>Max. Dose</th>
<th>Dosing Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gabapentin (Neurontin)</td>
<td>100-300</td>
<td>1200</td>
<td>tid</td>
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<tr>
<td>Oxcarbazepine (Trileptal)</td>
<td>150</td>
<td>600</td>
<td>bid</td>
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<tr>
<td>Lamotrigine (Lamictal)</td>
<td>25</td>
<td>100</td>
<td>bid</td>
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<tr>
<td>Topiramate (Topamax)</td>
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<td>bid</td>
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<td>Carbamazepine (Tegretol)</td>
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<td>600</td>
<td>bid</td>
</tr>
<tr>
<td>Pregabalin (Lyrica)</td>
<td>50</td>
<td>300</td>
<td>bid</td>
</tr>
<tr>
<td>Amitriptyline (Elavil)</td>
<td>10/25</td>
<td>100/150</td>
<td>bedtime</td>
</tr>
<tr>
<td>Nortriptyline (Pamelor)</td>
<td>10/25</td>
<td>100/150</td>
<td>bedtime</td>
</tr>
<tr>
<td>Duloxetine (Cymbalta)</td>
<td>30</td>
<td>60</td>
<td>daily</td>
</tr>
</tbody>
</table>

• Topical cream
  – Capsaicin topical (Zostrix) 0.025 or 0.075%
  – Apply three to four times daily
  – Use after lesions resolve (may ↑ pain if used during or just after acute phase)

• Analgesic patch
  – Lidocaine topical 5% patch (Lidoderm)
  – Apply to affected area for 12 hours per day

MANAGEMENT: PREVENTION OF HERPES ZOSTER

• Zostavax
  – Live attenuated varicella-zoster vaccine approved for use in immunocompetent adults > 60 years old
  – 50% decreased incidence of acute herpes zoster
  – 67% decreased incidence of postherpetic neuralgia

MANAGEMENT: NEUROPATHIC PAIN

• Most patients respond to agents such as tricyclic antidepressants & antiepileptic drugs

• However, a small percentage of patients develop severe long-lasting pain that is refractory to medications

• Surgical interventions include:
  – Dorsal root entry zone (DREZ) lesioning
  – Epidural steroid injections
  – Nerve blocks
OTHER NEUROPATHIC PAIN SYNDROMES

- Trigeminal neuralgia (aka tic douloureux)
  - Usually V2 or V3 in 95%
- Chronic polyneuropathy
  - Common in diabetics
- Thalamic pain syndrome
  - Also called Dejerine-Roussy syndrome
  - Occurs 2-4 weeks after stroke, not at onset of stroke symptoms

COUNSELING

- Herpes zoster usually does not recur
  - Immune response is boosted by the 1st episode
- Postherpetic neuralgia can be difficult to treat but resolves eventually in most patients
- Be patient with neuropathic pain meds:
  - Takes 2-4 weeks for each dose to be effective
  - Start low & titrate slowly to avoid adverse effects
  - Must maximize efficacy/toxicity ratio
  - Stop drug (and call physician) only if intolerable side effects occur

THE END