Skin and Soft Tissue Infections

Diagnosis[1,2]

- Relatively sudden onset of redness, warmth, tenderness, and swelling of the skin
  - **Nonpurulent**: no evidence of abscess/phlegmon
    - Most cases caused by beta-hemolytic streptococci (usually group A strep but also B, C, or G) that are suceptible to penicillin (PCN); ~10 percent of cases caused by methicillin-susceptible *Staphylococcus aureus* (MSSA)
  - **Purulent:** evidence of abscess/phlegmon
    - Most cases caused by *S. aureus*, including methicillin-resistant *S. aureus* (MRSA)
- Almost always unilateral; consider other conditions if bilateral
- Distinguish cellulitis from noninfectious conditions: venous stasis dermatitis (often bilateral and may lead to skin hyperpigmentation, pitting edema, serous drainage, and itchiness); gout; lymphedema; peripheral arterial disease; contact dermatitis; deep vein thrombosis[3-5]
- Risk factors: skin surface disruption (e.g., recent trauma, cutaneous ulcer, tinea pedis, eczema), impaired venous or lymphatic drainage
- Consider wound culture for patients with purulent cellulitis, particularly in patients with recurrent infection, immunocompromise, foreign material, or those being admitted to the hospital
- Obtain ultrasound if concern for abscess/phlegmon and physical exam is equivocal

Treatment

Elevate the affected extremity and treat underlying predisposing conditions.

- **Nonpurulent cellulitis**[6-8]
  - Cover beta-hemolytic strep and MSSA; MRSA coverage is not routinely indicated[9-11]
    - Oral first-generation cephalosporin: cephalexin or cefadroxil (can use for nonsevere PCN allergy)
    - Amoxicillin-clavulanate (also recommended for animal or human bites)
    - Severe PCN allergy: doxycycline, trimethoprim/sulfamethoxazole, clindamycin (monitor for response given increasing resistance rates to beta-hemolytic streptococci)
- **Purulent cellulitis**[1,2]
  - Incision and drainage of abscess is essential
  - For skin abscess with minimal cellulitis, antibiotics are of modest benefit once abscess is drained in uncomplicated cases[12]
    - Antibiotics are recommended for patients with associated systemic illness, diabetes, immunocompromise, extremes of age, location of abscess in an area where drainage is difficult, or the presence of more than minimal cellulitis
  - Cover *S. aureus*, including MRSA[1,2]
    - Doxycycline
    - Trimethoprim/sulfamethoxizole
    - Clindamycin (increasing resistance in *S. aureus*; check local resistance rates before using)
    - Linezolid (severe cases)

Duration

- 5–7 days is typically sufficient.[13]

Followup

- Remind patients that they may not become afebrile or see a decrease in pain or the size and intensity of until 3 days have passed.[14]
- Patients should seek emergency care if the cellulitis is rapidly spreading, bullae are developing, the lesion is becoming necrotic, or they are feeling increasingly ill.

References

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