Skin & Soft Tissue Infections

Cellulitis

Definition

Bacterial infection of the skin and underlying soft tissue, both with visible pus (purulent) or without pus (nonpurulent). **Non-purulent** infections are termed erysipelas, impetigo and cellulitis. **Purulent** infections comprise abscess, with or without surrounding cellulitis.

Common Symptoms

Cutaneous pain, erythema, induration, and warmth.

Etiology

Non-purulent

Streptococcus pyogenes (Group A Streptococcus)
Streptococcus sp. (Group C, Group G)
Methicillin-susceptible Staphylococcus aureus (MSSA)

Purulent

Methicillin-susceptible Staphylococcus aureus (MSSA)
Methicillin-resistance Staphylococcus aureus (MRSA)

Risk Stratification

- Most infections are of mild to moderate severity, and do not feature systemic signs of illness.
- Severe skin and soft tissue infections typically present with fever, signs of sepsis, pain disproportionate to physical findings, rapid progression, exposure or involvement of deep tissue, presence of gas in soft tissues, hemorrhagic changes, bullae or skin sloughing.

Therapy

Non-purulent

PO Cephalexin 500 mg PO QID x 5-7d*
* in patients > 80kg , consider cephalexin 1g PO QID

IV Cefazolin 2 g IV q8h

Beta-lactam anaphylaxis:
Levofloxacin 500 mg PO daily

Purulent

! For most abscesses, management with incision and drainage alone is sufficient. Antibiotics are suggested if there is significant surrounding cellulitis (>5cm), if the abscess is present on the face or genital area, and for immunocompromised patients.

Oral Co-trimoxazole 1 DS PO BID x 7 days
Doxycycline 100 mg PO BID x 7 days

IV Vancomycin (see Osler dosing protocol)

Special Considerations

- If intravenous therapy is needed initially (inability to take oral medications or early concern regarding aggressive infection), step-down to oral antibiotics should be considered within 48-72 hours
- Patients with recurrent lower extremity cellulitis may benefit from secondary antibiotic prophylaxis
- Consider Infectious Diseases outpatient referral after treatment of acute illness

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Animal Bites

Etiology

Staphylococcal and Streptococcal species
Oral anaerobes
Eikenella corrodens
Pasteurella multocida
Captnocytophaga canimorsus

Therapy

PO Amoxicillin-clavulanate 875/125 mg BID x 7 days
IV Ceftriaxone 1 g q24h + Metronidazole 500 mg PO/IV q12h

Beta-lactam anaphylaxis:
Clindamycin 300 mg PO QID
PLUS one of:
Co-trimoxazole 2 DS PO BID
Levofloxacin 500 mg PO/IV q24h
Doxycycline 100 mg PO BID

Prophylaxis

Consider animal bite prophylaxis only if:

- Cat bite (deep puncture wound)
- Moderate/Severe injury
- Injury in close proximity to bone or joint (esp. in hand)
- Immunocompromised patient
- Facial or genital wound
- Wound requires closure

PO Amoxicillin-clavulanate 875/125 mg BID x 7 days

B-lactam anaphylaxis:
Consult Infectious Disease services

!	**For animal and human bites, whether or not antibiotic prophylaxis or treatment is given, remember to give tetanus booster (Td) if none received in the past 5 years.*

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Necrotizing Fasciitis or Severe Infections

Surgical intervention is absolutely necessary in necrotizing fasciitis – please consult the appropriate surgical service immediately. Antibiotic therapy is adjunctive.

Antimicrobial Therapy

Type I (polymicrobial, including Fournier's)

Piperacillin/Tazobactam 4.5 g IV q6h **PLUS** Vancomycin (see Osler dosing protocol)

Beta-lactam anaphylaxis
Meropenem 500 mg q6h **PLUS** Vancomycin (see Osler dosing protocol)

Type II (*i.e. Group A streptococcus*)

Penicillin G 4 MU IV q4h **PLUS** Clindamycin 900 mg IV q8h
If signs of Streptococcal Toxic Shock Syndrome present, may consider adding IVIG

Beta-lactam anaphylaxis
Consult ID

For all severe skin and soft tissue infections, including Necrotizing Fasciitis, please consider ID consult