

Diabetic Foot Infections

Definition

Infection of skin, soft tissues, muscles, tendons, or bones of the foot in patients with diabetes mellitus. Predisposing factors include peripheral arterial disease, local tissue hyperglycemia and sensory neuropathy. Consequently, patients may not experience pain as a symptom.

Common Symptoms

Swelling or induration, erythema, warmth and/or purulent discharge.

Etiology

Mild infections – *S.aureus*, Beta-hemolytic Streptococci

Complicated infections - *S.aureus*, Streptococcus species, Enterobacteriaceae, Anaerobes

Risk Stratification

Mild infections involve only the skin and the subcutaneous tissue (without involvement of deeper tissues and without systemic signs. Erythema is limited to ≤ 2 cm around an ulcer.

Moderate infections include erythema > 2 cm around an ulcer, or involve structures deeper than skin and subcutaneous tissues (eg. abscess, osteomyelitis, septic arthritis, fasciitis) but *without* systemic inflammatory response signs.

Severe infections manifest both extensive skin/soft tissue involvement and are accompanied by systemic signs or metabolic perturbations, such as fever, tachycardia, tachypnea, and peripheral leukocytosis or left shift.

Therapy

Mild Infections	Moderate Infections	Severe Infections
PO Cephalexin 500 mg QID Amoxicillin-clavulanate 875/125 mg BID Co-trimoxazole 1 DS tab BID (<i>if MRSA suspected</i>) IV Cefazolin 2 g q8h	PO Amoxicillin-clavulanate 875/125 mg BID Moxifloxacin 400 mg PO/IV q24h IV Ceftriaxone 1 g q24h PLUS Metronidazole 500 mg PO/IV q12h	IV Piperacillin/Tazobactam 4.5 g IV q8h <i>Beta-lactam anaphylaxis</i> PO Moxifloxacin 400 mg PO/IV q24h IV Ertapenem 1 g IV q24h

If MRSA is suspected – Add Vancomycin (see Osler dosing protocol)

Clinical Considerations

- ⌘ Debride callus/necrotic tissue and cleanse to determine depth/severity and promote wound healing
- ⌘ Comprehensive patient assessment is essential for proper management of patients with DFI
 - Determine level of glycemic control (e.g. fasting and mealtime sugars, HgbA1c)
 - Review recent arterial studies
 - Inquire about travel or water immersion/water baths (risk factors for *Pseudomonas* infection)
- ⌘ Osteomyelitis should be suspected clinically when:
 - Grossly visible bone or ability to probe to bone
 - Ulcer size larger than 2 cm²
 - Ulcer duration longer than one to two weeks
 - Erythrocyte sedimentation rate (ESR) greater than 70 mm/h

Treatment Duration

Site of Infection	Duration of therapy
Soft Tissue	
Mild	1-2 weeks
Moderate	1-3 weeks
Severe	2-4 weeks
Bone or Joint	
No residual infected tissue (i.e. post-amputation)	2-5 days
Residual infected soft tissue (not bone)	1-3 weeks
Residual infection bone (viable)	4-6 weeks
No surgery, or residual dead bone postoperatively	≥ 3 months