Diabetic foot infection

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Epidemiology

- morbidity and mortality
- Important risk factors:

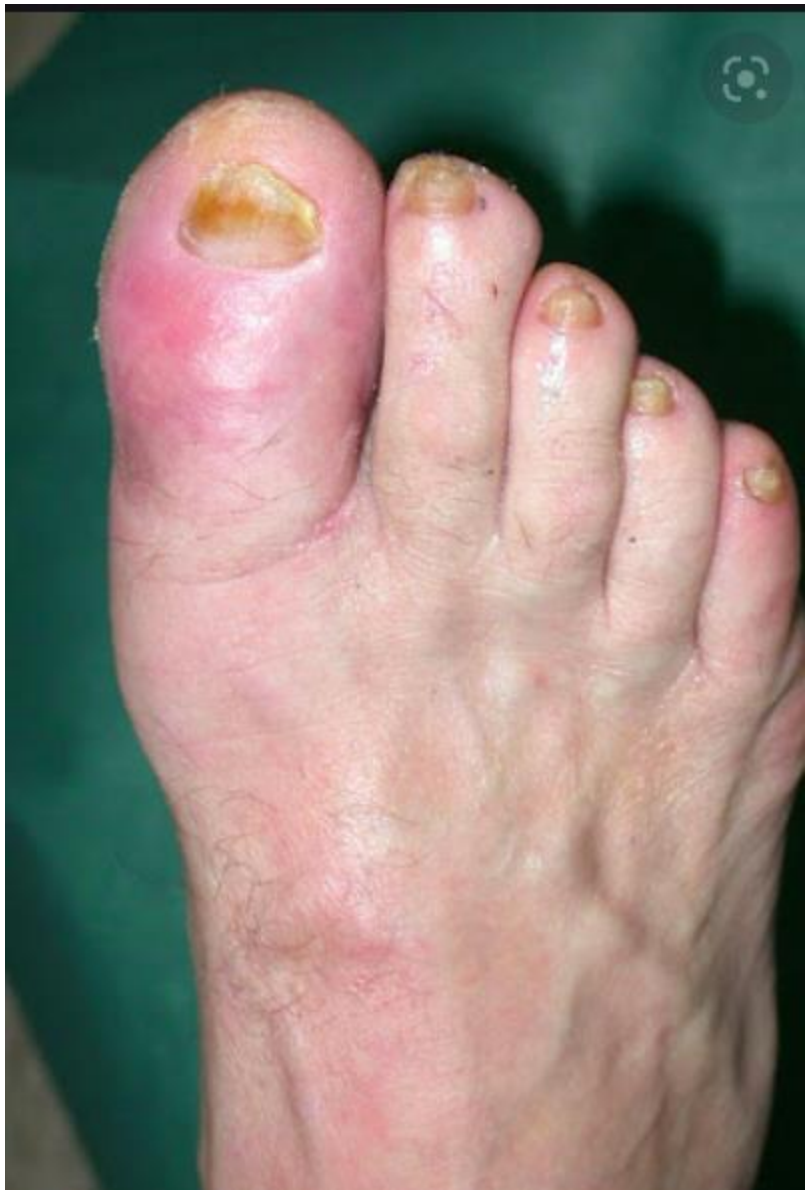
  neuropathy

  peripheral vascular disease,

  poor glycemic control.
- **sensory** neuropathy: perception of pain and temperature; (presence of an injury to their feet).
- **Autonomic** neuropathy: diminished sweat secretion resulting in dry, cracked skin / facilitates the entry of microorganisms to the deeper skin structures.
- **motor** neuropathy: foot deformities/ pressure-induced soft tissue damage.
- Peripheral artery disease: impair blood flow necessary for healing of ulcers and infections.
- Hyperglycemia: impairs neutrophil function and reduces host defenses.
- Trauma in patients with one or more of these risk factors precipitates development of wounds that can be slow to heal and predispose to secondary infection.

Case

- 45 years oldman
- Ulcer in foot



Questions???

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- Duration of ulcer
- Setting (home-facility care)
- Antibiotic use
- Prior admission
- Size
- symptoms

Physical examination???

- Size of ulcer
- location
- Involvement of bone, joint, muscle
- Crepitation
- Warmth
- Tenderness
- Visible bone
- Skin bulla, discoloration
- Malodor
- Secretion
- Cellulitis around ulcer, lymphangitis, gangeren
- Vital signs

Microbiology

- Superficial diabetic foot infections (including cellulitis and infected ulcers in antibiotic-naïve individuals) :aerobic gram-positive cocci (including Staphylococcus aureus, Streptococcus agalactiae, Streptococcus pyogenes, and coagulase-negative staphylococci).
- deep, chronically infected, and/or previously treated with antibiotics: polymicrobial. (aerobic gram-positive cocci + enterococci, Enterobacteriaceae, Pseudomonas aeruginosa, and anaerobes).
- extensive local inflammation, necrosis, malodorous drainage, or gangrene with signs of systemic toxicity : anaerobic organisms + the above pathogens.
- Potential anaerobes: anaerobic streptococci, Bacteroides species, Clostridium species

Methicillin-resistant S. aureus

- previous MRSA infections or colonization.
- prior antibiotic use,
- previous hospitalization,
- residence in a long-term care facility.

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Pseudomonas aeruginosa

- warm climates (study of 434 patients with infected diabetic foot ulcers in Northern India, P. aeruginosa was the most common isolate, found in 20 percent of initial cultures)
- Macerated ulcers,
- foot soaking,
- other exposure to water or moist environments also likely increases the risk of involvement with P. aeruginosa.
- in temperate climates and in the absence of the preceding findings and exposures, P. aeruginosa is a *relatively uncommon pathogen*

Resistant enteric gram-negative rods

- Gram-negative bacilli that express an extended-spectrum beta-lactamase (ESBL) are increasing in prevalence worldwide.
- These pathogens are more common

1. **prolonged hospital stays**,
2. **prolonged catheterization**,
3. **prior antibiotic use,**
4. **residence in a long-term care facility**

Spectrum of involvement

- infection can present as localized superficial skin involvement at the site of a preexisting lesion

or

- infection of the skin or deeper skin structures that has spread beyond the site of local trauma. extend to joints, bones, and the systemic circulation

Clinical classification of a diabetic foot infection

Infection severity	Clinical manifestations of infection
Uninfected	Wound lacking purulence or any manifestations of inflammation.
Mild	Presence of ≥2 manifestations of inflammation (purulence, or erythema, pain, tenderness, warmth, or induration), but any cellulitis/erythema extends ≤2 cm around the ulcer, and infection is limited to the skin or superficial subcutaneous tissues; no other local complications or systemic illness.
Moderate	Infection (as above) in a patient who is systemically well and metabolically stable but which has ≥1 of the following characteristics: cellulitis extending >2 cm, lymphangitic streaking, spread beneath the superficial fascia, deep-tissue abscess, gangrene, and involvement of muscle, tendon, joint or bone.
Severe	Infection in a patient with systemic toxicity or metabolic instability (eg, fever, chills, tachycardia, hypotension, confusion, vomiting, leukocytosis, acidosis, severe hyperglycemia, or azotemia).

uninfected

- Without any manifestation of inflammation

Mild

- >=2 manifestations of inflammation:

1. Purulence
2. Erythema
3. Pain
4. Warmth
5. Induration

without cellulitis

without erythema>= 2 cm around ulcer

Moderate

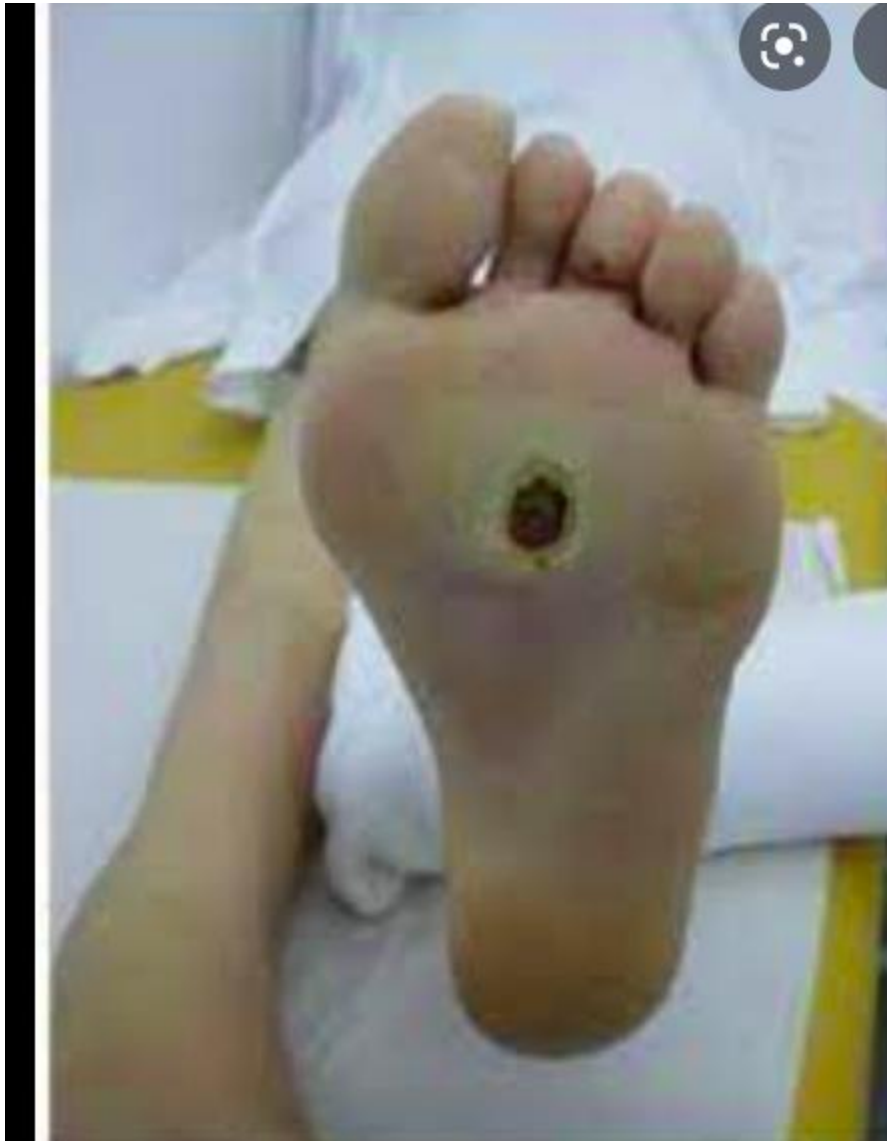
- Mild form

AND Systematically well

AND Metabolically stable

AND >= 1 following characteristics:

1. Cellulitis > 2 cm around ulcer
2. Lymphangitis
3. involvement of superficial fascia ,Deep tissue, muscle, Tendon, Joint, Bone
4. abscess
5. Gangrene



Regimens with activity against streptococci and staphylococci (MSSA)
Cephalexin **or**
Dicloxacillin **or**
Amoxicillin-clavulanate **or**
Clindamycin

Regimens with activity against streptococci and MRSA
Clindamycin* **or**
Linezolid **or**
Cephalexin **or** dicloxacillin **PLUS** Trimethoprim-sulfamethoxazole **or** doxycycline

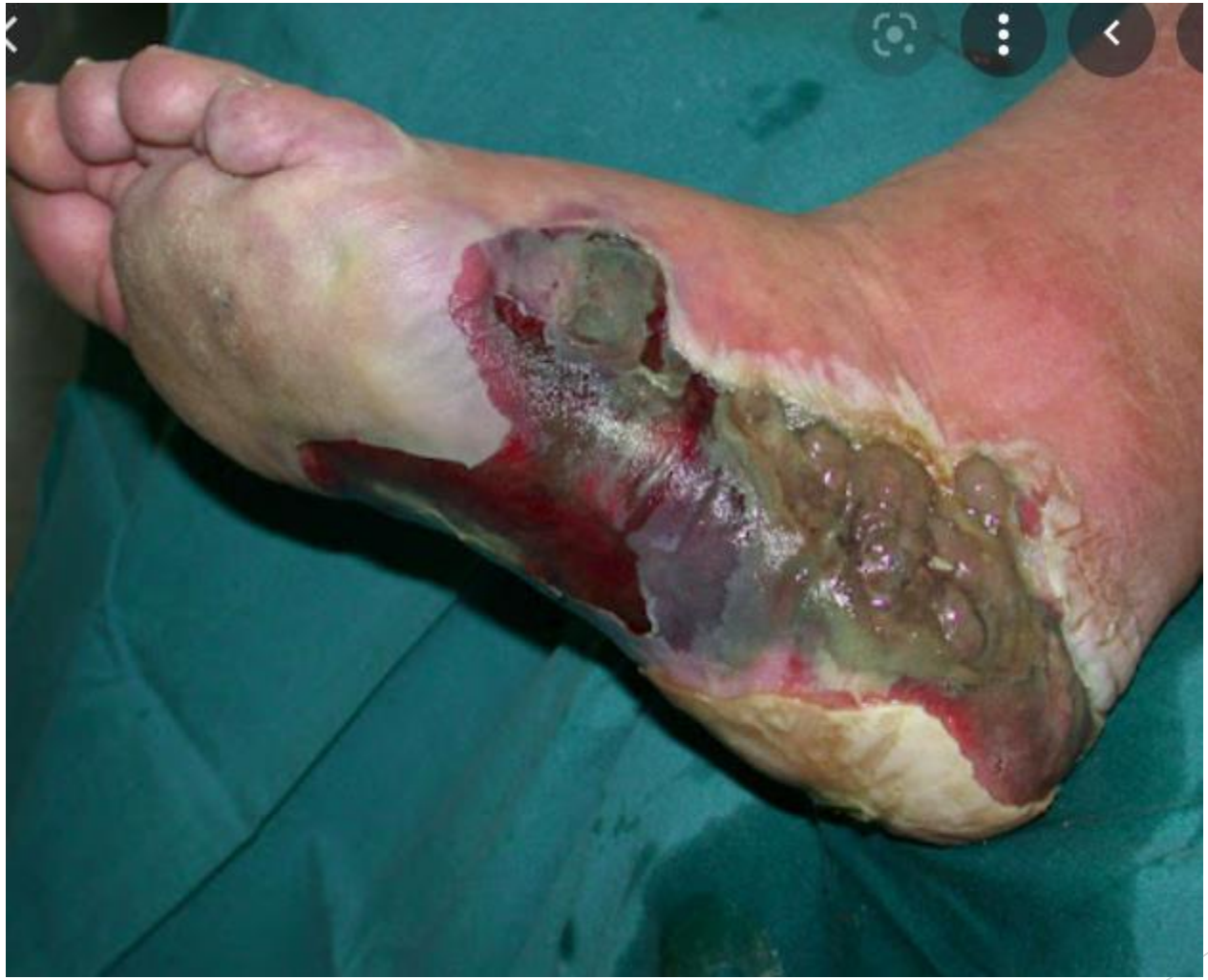
Regimens with activity against streptococci, MRSA, aerobic gram-negative bacilli[¶] and anaerobes
Trimethoprim-sulfamethoxazole **PLUS** Amoxicillin-clavulanate **-OR-**
Clindamycin* **PLUS** Ciprofloxacin[¶] **or** levofloxacin[¶] **or** moxifloxacin

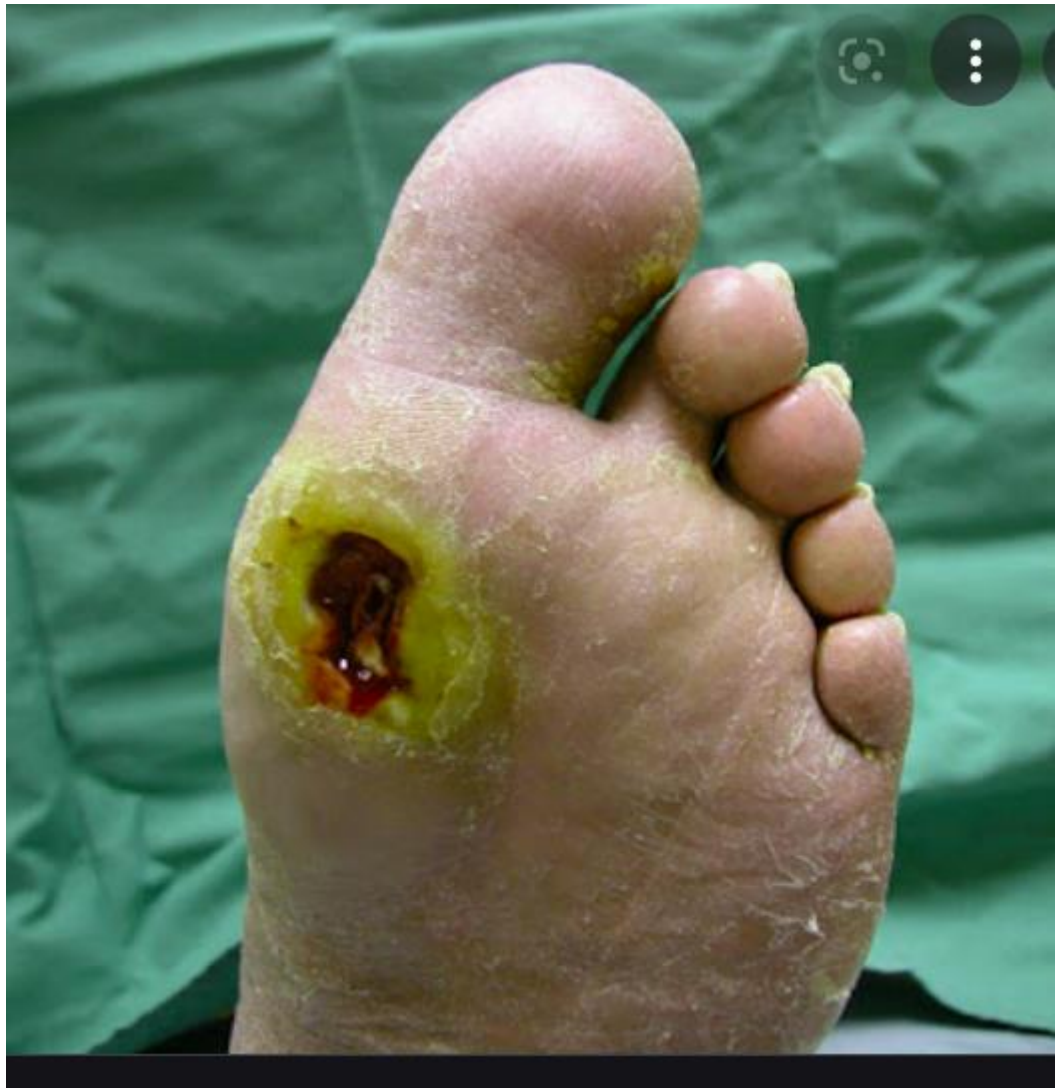
Severe

- Systematically toxic

  Or

  Metabolically instable





	Dosing (for adults with normal renal function)[¶]	Activity against *Pseudomonas*[Δ]
Beta-lactam/beta-lactamase inhibitors		
Ampicillin-sulbactam	3 g every 6 hours	No
Piperacillin-tazobactam[◊]	3.375 g every 6 hours or 4.5 g every 6 to 8 hours	Yes, when dosed 4.5 g every 6 hours
Carbapenems		
Imipenem-cilastatin[◊]	500 mg every 6 hours	Yes
Meropenem[◊]	1 g every 8 hours	Yes
Ertapenem	1 g every 24 hours	No
Combination regimens		
Metronidazole PLUS one of the following:	500 mg every 8 hours	No
Ceftriaxone	1 to 2 g every 24 hours	No
Ceftazidime[◊]	1 to 2 g every 8 hours[§]	Yes, when 2 g dose is used
Cefepime[◊]	2 g every 8 to 12 hours[¥]	Yes
Ciprofloxacin[‡]	400 mg IV every 8 to 12 hours	Yes[†]
Levofloxacin	750 mg IV every 24 hours	Yes[†]
Moxifloxacin	400 mg every 24 hours	No
Aztreonam[‡]	2 g every 8 hours	Yes[†]
PLUS one of the following if MRSA coverage is warranted		
Vancomycin[**]	15 to 20 mg/kg every 8 to 12 hours	
Linezolid[¶¶]	600 mg every 12 hours	
Daptomycin[ΔΔ]	4 to 6 mg/kg every 24 hours	

Antibiotic dosing for adults with normal renal function[Δ]

Cephalexin	500 mg every 6 hours
Dicloxacillin	500 mg every 6 hours
Clindamycin	300 to 450 mg every 6 to 8 hours
Linezolid	600 mg every 12 hours
Trimethoprim-sulfamethoxazole (co-trimoxazole)	2 double-strength tablets (trimethoprim 160 mg sulfamethoxazole 800 mg per tablet) every 12 hours
Doxycycline	100 mg orally every 12 hours
Amoxicillin-clavulanate	875/125 mg every 12 hours
Ciprofloxacin	500 mg every 12 hours (or, if there is concer *Pseudomonas aeruginosa*, 750 mg every 12 hours)
Levofloxacin	500 mg every 24 hours (or, if there is concern *aeruginosa*, 750 mg every 24 hours)

Skin and soft tissue infection

- cardinal manifestations of inflammation (***erythema***, ***warmth***, ***swelling***, and ***tenderness***) and/or the presence of pus in an ulcer or sinus tract
- Infections may not manifest with warmth and erythema in the setting of severe ischemia.
- Diabetics with sensory neuropathy may have diminished sensation in the involved area and therefore may **not complain of tenderness nor**, in some cases, even realize that infection is present.
- In such instances, infection may progress to involve deeper tissues ***before the patient seeks clinical attention***.
- Other local signs that may be present in diabetic foot infections are nonspecific and include

  non-purulent drainage, friable or discolored granulation tissue, and

  undermining of wound edges

Limb-threatening infection

- Cutaneous bullae,

  soft tissue gas,

  skin discoloration,

  foul odor may occur : necrotizing infections.
- gangrene,

  severe ischemia,

  tissue necrosis may :limb-threatening infection.
- Systemic signs such as fever, chills, hypotension, and tachycardia may accompany local signs of infection, and their presence indicates an increased severity of infection.

Unresponsive ulcer

- Ischemia
- Pathogen resistance
- Collection
- Osteomyelitis
- Wring diagnosis

Osteomyelitis

- with or without evidence of local soft tissue infection.
- Clinical features associated with underlying osteomyelitis :

ulcers include ulcer size >2 cm2 and depth allowing visibly exposed bone or ability to probe to bone

- ESR: Although not specific or highly sensitive, the erythrocyte sedimentation rate (ESR) may be useful
- The finding of an ESR of 70 or greater increases the clinical probability that osteomyelitis is present
- plain radiographs, characteristic of osteomyelitis: cortical erosion, periosteal reaction, mixed lucency, and sclerosis
- There is often also evidence of soft tissue swelling. However, radiographs may be normal or have only subtle non-specific findings early in infection.
- Magnetic resonance imaging (MRI) findings of osteomyelitis include cortical destruction, bone marrow edema, and soft tissue inflammation.

EVALUATION- CLINICAL(OSTEOMYELITIS.)

A NEUROLOGIC EVALUATION THAT DOCUMENTS THE EXTENT OF SENSORY LOSS

VASCULAR EVALUATION OF THE PRESENCE AND SEVERITY OF ARTERIAL AND/OR VENOUS INSUFFICIENCY.

EVALUATION- PARACLINICAL(OSTEOMYELITS.)

- COMPLETE BLOOD COUNT
- BLOOD GLUCOSE, ELECTROLYTES, AND RENAL FUNCTION.
- (ESR) AND C-REACTIVE PROTEIN (CRP): MONITORING
- PROCALCITONIN (PCT), A NOVEL INFLAMMATORY MARKER, MAY ALSO BE USEFUL IF LABORATORY FACILITIES THAT TEST THIS SUBSTANCE ARE LOCALLY AVAILABLE; FURTHER INVESTIGATION IS NEEDED TO DETERMINE THE CLINICAL UTILITY OF THIS ASSAY
- CONVENTIONAL RADIOGRAPHS TO EVALUATE FOR BONY DEFORMITY, FOREIGN BODIES, AND GAS IN THE SOFT TISSUE.
- IN SELECT CASES, MAGNETIC RESONANCE IMAGING (MRI) : SOFT TISSUE ABNORMALITIES AND OSTEOMYELITIS.
- AEROBIC AND ANAEROBIC CULTURES OF DEEP TISSUE OR BONE BIOPSIES SHOULD BE OBTAINED AT THE TIME OF DEBRIDEMENT IF DEEP TISSUE INFECTION OR OSTEOMYELITIS IS SUSPECTED.
- IF SURGICAL INTERVENTION IS WARRANTED FOR MANAGEMENT OF INFECTION, FORMAL NEUROLOGICAL AND/OR VASCULAR EVALUATION IS IMPORTANT FOR DETERMINING THE *EXTENT OF SURGICAL INTERVENTION.*

DIAGNOSIS OF UNDERLYING OSTEOMYELITIS

- THE POSSIBILITY : IN PATIENTS WITH CHRONIC ULCERS, PARTICULARLY THOSE OVERLYING BONY PROMINENCES THAT DO NOT HEAL AFTER SEVERAL WEEKS OF WOUND CARE
- DEFINITE DIAGNOSIS: MADE THROUGH ISOLATION OF BACTERIA FROM A STERILELY OBTAINED BONE BIOPSY SAMPLE WITH HISTOLOGIC EVIDENCE OF INFLAMMATION AND OSTEONECROSIS
- BONE BIOPSY PROBLEMS: IS NOT ALWAYS ROUTINELY AVAILABLE OR PRACTICAL

  BONE CULTURES MAY BE NEGATIVE IN PATIENTS WHO HAVE ALREADY

  RECEIVED ANTIBIOTICS,

  BONE HISTOLOGY MAY NOT SHOW INFLAMMATION DUE TO SAMPLING

  ERROR.
- IN SUCH INSTANCES, THE PRESUMPTIVE DIAGNOSIS IS BASED ON CLINICAL AND RADIOGRAPHIC ASSESSMENT.

DIAGNOSIS OF UNDERLYING OSTEOMYELITIS

- IF BONE IS GROSSLY VISIBLE, *SUPPORTIVE RADIOGRAPHIC FINDING MAY NOT BE NECESSARY* TO MAKE A DIAGNOSIS OF OSTEOMYELITIS.
- DIABETIC PATIENTS WITH ONE OR MORE OF THE OTHER ABOVE FACTORS, A CONVENTIONAL RADIOGRAPH WITH CONSISTENT CHANGES CAN BE HELPFUL IN MAKING THE DIAGNOSIS OF OSTEOMYELITIS AND PROVIDING A BASELINE IMAGE USEFUL FOR SUBSEQUENT MANAGEMENT DECISIONS.
- IF THE RADIOGRAPH IS INDETERMINATE OR NORMAL AND THE DIAGNOSIS REMAINS UNCERTAIN, SUCH PATIENTS SHOULD UNDERGO MAGNETIC RESONANCE IMAGING (MRI), WHICH IS HIGHLY SENSITIVE AND SPECIFIC FOR OSTEOMYELITIS (SUPERIOR TO RADIOGRAPHS, THREE-PHASE BONE SCANS, AND WHITE BLOOD CELL SCANS)
- MRI IS GENERALLY UNNECESSARY IF THE PLAIN RADIOGRAPH IS CONSISTENT WITH OSTEOMYELITIS

Culture in osteomyelitis

- NEED FOR HIGH-LEVEL AMPUTATIONS IF INADEQUATELY TREATED, OBTAINING A BONE SAMPLE TO ESTABLISH DIAGNOSIS IS RECOMMENDED .

- CULTURE OF SUCH BONE BIOPSY SPECIMENS IS ALSO IMPORTANT FOR IDENTIFYING THE CAUSATIVE ORGANISMS AND THEIR SUSCEPTIBILITIES IN ORDER TO GUIDE ANTIMICROBIAL THERAPY.

DIFFERENTIAL DIAGNOSIS

- TRAUMA,
- CRYSTAL ASSOCIATED ARTHRITIS
- ACUTE CHARCOT ARTHROPATHY
- FRACTURE
- THROMBOSIS
- VENOUS STASIS

WOUND MANAGEMENT

- LOCAL WOUND CARE : DEBRIDEMENT OF CALLUS AND NECROTIC TISSUE, WOUND CLEANSING, AND RELIEF OF PRESSURE ON THE ULCER.
- SHARP DEBRIDEMENT, WITH THE USE OF A SCALPEL OR SCISSORS TO SHEAR OF NECROTIC TISSUE, IS THE PREFERRED METHOD TO REMOVE CALLUS AND NONVIABLE TISSUE. SUCH DEBRIDEMENT PROMOTES WOUND HEALING AND REMOVES PATHOGENS THAT ARE PRESENT IN NONVIABLE TISSUES
- ENZYMATIC DEBRIDEMENT MAY BE PREFERABLE IN PATIENTS WITH SIGNIFICANT VASCULAR COMPROMISE THAT MIGHT IMPEDE THE ABILITY TO HEAL NEW WOUNDS CREATED BY SHARP DEBRIDEMENT . AS A GENERAL RULE, SURGICAL INTERVENTION IS NEEDED FOR PATIENTS WITH EXTENSIVE INFECTION OF SUBCUTANEOUS OR DEEPER STRUCTURES.
- WOUND DRESSING IS TO ABSORB EXUDATE AND CREATE A MOIST ENVIRONMENT TO PROMOTE HEALING. A WIDE ARRAY OF DRESSING AND WOUND HEALING PRODUCTS FOR ULCER MANAGEMENT HAS BEEN DEVELOPED. THESE PRODUCTS INCLUDE ENZYMES, GELS, HYDROCOLLOIDS, HONEY AND ANTISEPTICS CONTAINING IODINE OR SILVER SALTS. HOWEVER, THE EFFICACY OF THESE AGENTS HAS NOT BEEN EVALUATED OR COMPARED IN CAREFULLY DESIGNED STUDIES.
- AVOIDANCE OF WEIGHT BEARING IS GENERALLY MORE IMPORTANT THAN THE

OBTAINING SAMPLES FOR CULTURE

- IF THE CLINICAL SUSPICION FOR INFECTION IS LOW, SAMPLES FROM THE WOUND SHOULD NOT BE SUBMITTED FOR CULTURE.
- IN PATIENTS WITH MILD INFECTION)IN WHOM THERE IS LOW SUSPICION FOR RESISTANT ORGANISMS (EG, NO RECENT ANTIBIOTIC COURSE), WOUND CULTURE IS OFTEN NOT NECESSARY.
- WOUND CULTURE IS OFTEN HELPFUL IN CASES OF MODERATE OR SEVERE INFECTION AND WHEN THE CONCERN FOR MULTIDRUG RESISTANT ORGANISMS IS HIGH.
- IDEALLY. SAMPLES FOR CULTURE SHOULD BE OBTAINED PRIOR TO THE INITIATION OF EMPIRIC ANTIBIOTICS.
- IN CASES OF SYSTEMIC TOXICITY OR LIMB-THREATENING INFECTIONS, ANTIBIOTIC THERAPY SHOULD NOT BE WITHHELD BEFORE SURGICAL CULTURES ARE OBTAINED.
- THE PREFERRED CLINICAL SPECIMENS FOR RELIABLE CULTURE INCLUDE ASPIRATE FROM AN ABSCESS OR CURETTAGE FROM THE ULCER BASE FOLLOWING SUPERFICIAL DEBRIDEMENT OF NECROTIC TISSUE.
- ORGANISMS CULTURED FROM SUPERFICIAL SWABS ARE NOT RELIABLE FOR PREDICTING THE PATHOGENS RESPONSIBLE FOR DEEPER INFECTION.
- IN THE SETTING OF OSTEOMYELITIS, BONE BIOPSY IS THE PREFERRED METHOD OF SAMPLE COLLECTION FOR CULTURE. IF PERFORMED PERCUTANEOUSLY, SAMPLING THROUGH UNINVOLVED TISSUE UNDER RADIOGRAPHIC GUIDANCE IS PREFERRED.
- ALTHOUGH SINUS TRACT CULTURES MAY BE OF SOME USE FOR PREDICTION OF

SURGERY

- SURGICAL DEBRIDEMENT IS REQUIRED FOR CURE OF INFECTIONS COMPLICATED BY:

1. ABSCESS,
2. EXTENSIVE BONE OR JOINT INVOLVEMENT,
3. CREPITUS,
4. NECROSIS,
5. GANGRENE OR NECROTIZING FASCHITIS

- REVASCULARIZATION (VIA ANGIOPLASTY OR BYPASS GRAFTING)
- AND/OR AMPUTATION MAY BE NECESSARY.
- DETERMINATION OF THE EXTENT OF SURGICAL INTERVENTION REQUIRED SHOULD BE GUIDED BY VASCULAR EVALUATION.

ANTIMICROBIAL THERAPY

- EMPIRIC ANTIBIOTIC THERAPY SHOULD BE SELECTED BASED ON THE

1. SEVERITY OF INFECTION

   AND

1. THE LIKELIHOOD OF INVOLVEMENT OF RESISTANT ORGANISMS.

- IT IS NOT ALWAYS NECESSARY TO COVER ALL MICROORGANISMS ISOLATED FROM CULTURES .

EMPIRIC THERAPY

- MILD INFECTION
  OUTPATIENT ORAL ANTIMICROBIAL THERAPY. EMPIRIC THERAPY OF PATIENTS WITH MILD INFECTIONS SHOULD INCLUDE ACTIVITY AGAINST SKIN FLORA INCLUDING STREPTOCOCCI AND *S. AUREUS*. AGENTS WITH ACTIVITY AGAINST METHICILLIN-RESISTANT *S. AUREUS* (MRSA)
  SHOULD BE USED IN PATIENTS WITH PURULENT INFECTIONS AND THOSE AT RISK FOR MRSA INFECTION
- MODERATE INFECTION
  EMPIRIC THERAPY OF DEEP ULCERS WITH EXTENSION TO FASCIA SHOULD INCLUDE ACTIVITY AGAINST STREPTOCOCCI, *S. AUREUS* (AND MRSA IF RISK FACTORS ARE PRESENT), AEROBIC GRAM-NEGATIVE BACILLI AND ANAEROBES AND CAN BE ADMINISTERED ORALLY IN MANY CASES. APPROPRIATE REGIMENS ARE OUTLINED IN THE
  TABLE . PATIENTS PRESENTING WITH EXTENSIVE INFECTIONS THAT INVOLVE DEEP TISSUES SHOULD RECEIVE EMPIRIC PARENTERAL THERAPY WITH ACTIVITY AGAINST THE ABOVE PATHOGENS EMPIRIC COVERAGE FOR *P. AERUGINOSA* MAY NOT ALWAYS BE NECESSARY UNLESS THE PATIENT HAS PARTICULAR RISK FOR
  INVOLVEMENT WITH THIS ORGANISM, SUCH AS A MACERATED WOUND OR ONE WITH SIGNIFICANT WATER EXPOSURE
- SEVERE INFECTION
  LIMB-THREATENING DIABETIC FOOT INFECTIONS AND THOSE THAT ARE ASSOCIATED WITH SYSTEMIC TOXICITY SHOULD BE TREATED WITH BROAD-SPECTRUM PARENTERAL ANTIBIOTIC THERAPY. IN MOST CASES, SURGICAL DEBRIDEMENT IS ALSO NECESSARY. EMPIRIC THERAPY SHOULD INCLUDE ACTIVITY AGAINST STREPTOCOCCI,
  MRSA, AEROBIC GRAM-NEGATIVE BACILLI, AND ANAEROBES.

MILD INFECTION-EMPIRIC

- OUTPATIENT ORAL ANTIMICROBIAL THERAPY.
- SKIN FLORA INCLUDING

  STREPTOCOCCI

  S. AUREUS.

  AGENTS WITH ACTIVITY AGAINST METHICILLIN-RESISTANT *S. AUREUS* (MRSA)
  SHOULD BE USED IN PATIENTS WITH PURULENT INFECTIONS AND THOSE AT RISK FOR MRSA INFECTION

MODERATE INFECTION-EMPIRIC

- AGAINST:

1. STREPTOCOCCI,
2. *S. AUREUS* (AND MRSA IF RISK FACTORS ARE PRESENT),
3. AEROBIC GRAM-NEGATIVE BACILLI
4. ANAEROBES

- ORAL THERAPY: MANY TIMES
- EMPIRIC COVERAGE FOR *P. AERUGINOSA* MAY NOT ALWAYS BE NECESSARY UNLESS : , SUCH AS A MACERATED WOUND OR ONE WITH SIGNIFICANT WATER EXPOSURE

SEVERE INFECTION

- LIMB-THREATENING DIABETIC FOOT INFECTIONS AND THOSE THAT ARE ASSOCIATED WITH SYSTEMIC TOXICITY SHOULD BE TREATED WITH BROAD-SPECTRUM PARENTERAL ANTIBIOTIC THERAPY.
- IN MOST CASES, SURGICAL DEBRIDEMENT IS ALSO NECESSARY.
- EMPIRIC THERAPY SHOULD INCLUDE ACTIVITY:

1. STREPTOCOCCI,
2. MRSA,
3. AEROBIC GRAM-NEGATIVE BACILLI, AND
4. ANAEROBES.

TARGETED THERAPY

- IT IS NOT ALWAYS NECESSARY TO COVER ALL MICROORGANISMS ISOLATED FROM CULTURES

- IF ISOLATES ARE RESISTANT TO AN EMPIRIC REGIMEN TO WHICH THE PATIENT IS CLEARLY RESPONDING WELL, BROADENING THE SPECTRUM TO INCLUDE THOSE ISOLATES MAY NOT BE NECESSARY.
- ON THE OTHER HAND, IF THE PATIENT IS NOT RESPONDING, EXPANDING THERAPY TO TARGET ALL ISOLATED ORGANISMS MAY BE WARRANTED.

DURATION OF THERAPY

- CONJUNCTION WITH ATTENTIVE WOUND CARE UNTIL
- MILD INFECTION: 1-2 WEEKS ORAL
- ANTIBIOTICS NEED NOT BE ADMINISTERED FOR THE ENTIRE DURATION THAT THE WOUND REMAINS OPEN .
- PATIENTS WITH INFECTION ALSO REQUIRING SURGICAL DEBRIDEMENT SHOULD RECEIVE INTRAVENOUS ANTIBIOTIC THERAPY PERIOPERATIVELY.
- IN THE ABSENCE OF OSTEOMYELITIS, ANTIBIOTIC THERAPY SHOULD BE ADMINISTERED : 2-4 WEEKS
- IF THERE IS A GOOD RESPONSE TO PARENTERAL THERAPY, ORAL AGENTS CAN BE USED TO COMPLETE THE COURSE OF TREATMENT .
- PATIENTS REQUIRING AMPUTATION OF THE INVOLVED LIMB SHOULD RECEIVE INTRAVENOUS ANTIBIOTIC THERAPY PERIOPERATIVELY.
- IF THE ENTIRE AREA OF INFECTION IS FULLY RESECTED, A BRIEF COURSE OF ORAL ANTIBIOTIC THERAPY (ABOUT A WEEK) FOLLOWING SURGERY IS USUALLY SUFFICIENT

ADJUNCTIVE THERAPIES

- VACUUM-ASSISTED WOUND CLOSURE,
- HYPERBARIC OXYGEN
- COLONY-STIMULATING FACTOR (G-CSF)

FOLLOW-UP

- IF CLINICAL EVIDENCE OF INFECTION PERSISTS BEYOND THE EXPECTED DURATION:

  ISSUES OF PATIENT ADHERENCE TO THERAPY,

  ANTIBIOTIC RESISTANCE,

  UNDIAGNOSED DEEPER INFECTION (EG, ABSCESS OR OSTEOMYELITIS),

  ISCHEMIA SHOULD BE EVALUATED

- IF INFECTION IN A CLINICALLY STABLE PATIENT FAILS TO RESPOND TO MORE THAN ONE ANTIBIOTIC COURSE, SOME FAVOR DISCONTINUING ANTIMICROBIAL THERAPY A FEW DAYS (EG, 48 TO 72 HOURS) IN ORDER TO OBTAIN A BIOPSY FOR CULTURE OF ANTIBIOTICS AND OPTIMIZE THE YIELD


Thank
you!