

## Case conference

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## Discussion

Necrotizing fasciitis

UpToDate: Necrotizing infections of the skin and fascia

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## Necrotizing infections of skin and fascia

- Usually in drug use, DM, obesity and immunosuppression
- Clinical features:
  - Typical S/S: tense edema of the skin, disproportionate pain, blisters, bullae, crepitus, subcutaneous gas
  - Systemic findings: fever, tachycardia, hypotension

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## Necrotizing infections of skin and fascia

- Necrotizing cellulitis
- Necrotizing fasciitis
  - Type I
  - Type II

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## Necrotizing cellulitis

- Clostridial cellulitis
  - *C. perfringens*
- Nonclostridial anaerobic cellulitis
  - mixed anaerobic and aerobic organisms
  - foul odor
  - Usually in DM patients

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## Necrotizing cellulitis



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## Necrotizing fasciitis

- Type I
  - Mixed infection: aerobic and anaerobic
  - Post-OP, DM, peripheral vascular disease
- Type II
  - Group A Streptococcus (GAS, *S. pyogenes*)
    - Streptococcal toxic shock syndrome (50%)
  - MRSA
  - In any age with good immunity
  - Associated with NSAID ?!

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## NF type I in DM p't

- NF should be considered in DM p't with cellulitis with systemic signs:
  - Tachycardia
  - Leukocytosis
  - Marked hyperglycemia
  - acidosis
- Often on feet
- Also on head, neck, perineum....

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## Necrotizing fasciitis



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## Clinical feature of NF

- Usually in feet, head and neck, perineum
- Erythema: darken-> reddish-purple color within 24-48 hr
- Unexplained pain
- Blister/bullae: blue or maroon; **extensive deep soft destruction**
- Crepitus (10%)
- Systemic toxicity: fever, malaise, myalgia, diarrhea, anorexia, hypotension

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## Treatment of NF

- Surgery
- Antibiotic treatment
- Hemodynamic support

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## Surgery for NF

- Best indication:
  - Severe pain
  - Toxicity
  - Fever
  - Elevated CPK
  - With or without radiographic findings
- Goal of surgery
  - To establish a diagnosis
  - To perform debridement

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## Antibiotic treatment

- Ampicillin-sulbactam (Unasyn)
- Ampicillin + clindamycin (or metronidazole)
- For G(-) bacteria:
  - Tigecycline or Tazocin
  - Unasyn + fluoroquinolone
  - Unasyn + aminoglycoside
  - Unasyn + Cepha
  - Unasyn + carbapenem

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## Antibiotic treatment

- For GAS
  - Penicillin G (4 MU IV Q4H)
- For MRSA
  - vancomycin

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## About *K. pneumoniae*

UpToDate: overview of *Klebsiella pneumoniae* infection

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## *Klebsiella pneumoniae*

- Enterobacteriaceae
- Gram-negative, non-motile, encapsulated, lactose fermenting, facultative anaerobic, rod shape
- Normal flora of human mouth and intestine

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## Infection of *K. pneumoniae*

- Impaired host defense: DM, alcoholism, malignancy, hepatobiliary disease, COPD, glucocorticoid therapy, renal failure....

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## Clinical manifestations

### Common infection caused by *K. pneumoniae*

Liver abscess	Prostatitis and prostatic abscess
Endophthalmitis	Deep neck abscess
Meningitis/brain abscess	Splenic abscess
Pulmonary infection	Psoas muscle abscess
Bacteremia	Skin and soft tissue infection
Infective endocarditis	Spinal infection
UTI	Septic arthritis
Renal and perinephric abscess	Other infections
SBP	

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Thanks for your listening!