

皮膚及軟組織感染

新光醫院急診醫學科
連楚明

2005-11-25

皮膚及軟組織感染

● 類丹毒Erysipeloid:

- Erysipelothrix rhusiopathie :handle salt water fish.
- 治療藥物: PCN, erythromycin

● Aeromonas hydrophilia:

- 游泳時傷口感染, 肝硬化, 惡性腫瘤.
- 傷口及軟組織感染: 蜂窩組織炎, 猛爆性肌肉壞死.
- 出血性水泡

● Vibrio vulnificus:

- 水泡性蜂窩組織炎, 海水中受傷, 肝硬化, 高死亡率.
- 出血性水泡

皮膚及軟組織感染

- Impetigo :Group A strept. , S. aureus.
- S.S.S.:S. aureus. charact. by widespread bullae & exfoliation.
- Furuncle & carbuncle:S. aureus.
- 丹毒(Erysipela): Strept.
- 蜂窩組織炎(Cellulitis): Strept. & S. aureus.

皮膚及軟組織感染

● 鏈球菌毒性症候群 (Streptococcal Toxic Shock Syndrome)

- Invasive Gr A Strept. infection in young adult, 20-50 Y/O.
- 臨床表徵: 低血壓, 早期器官衰竭, 肌肉壞死及壞死性肌膜炎, 病程迅速, 30 % 死亡.
- 治療: 早期外科引流及擴傷, fasciotomy, 或截肢.
- 出血性水泡
- 治療藥物: Penicillin, clindamycin, ceftriaxone.

皮膚及軟組織感染

☀ 壞死性肌膜炎(Necrotizing Fasciitis)

- 致病菌: 以混合感染最常見.
- G(+): Staphylococcus, GrA streptococcus
- G(-): Enterobacteriae: E. coli, K. pneumoniae, Salmonella
- Anaerobes: Bacteroides, Clostridium (often as sole cause).
- 死亡率: 20-47%.
- 治療: 馬上外科引流及擴傷.
- 取膿液馬上做革蘭氏染色
- 經驗抗生素療法需對抗厭氧菌腸內菌及鏈球菌.

Diagnostic aids of NF

- ☀ Microscopic
 - Blood culture
 - Gram stain and culture
 - Tissue culture

Triage manifestations of NF

Chills
Constitutional symptoms
Decreased urinary output
Fever
Mental status change
Neuralgia
Shock
Tachycardia
Tachypnea
Toxic appearance
Weakness/fatigue

Diagnostic aids of NF

- ☀ Radiologic
 - CT scan
 - Ultrasound
 - X-ray
 - MRI

Diagnostic aids of NF

• Histologic

Fascial biopsy
Fine needle aspiration
Frozen section
Incisional biopsy

Causative organisms in NF (Type 2 NF)

- Gram-positive bacteria
Group A Streptococcus
(*S. pyogenes*)
- +/- Staphylococcus

Causative organisms in NF (Type 1 NF)

- Gram-positive bacteria
A) Streptococcus (not group A)
Staphylococcus
Corynebacterium
- Gram-negative bacteria
Fusobacterium
Escherichia
Enterobacter
Proteus
Klebsiella
Serratia
Pseudomonas
Vibrio
Shigella
Neisseria
Pasteurella
Salmonella
- Anaerobes
Bacteroides
Peptococcus
Clostridium
- Fungi
Candida
Cryptococcus
Histoplasma

Treatment

- Broad-spectrum antibiotic coverage
- Nutritional supplements
- Hemodynamic support
- Wound care
- Prompt surgical debridement

Streptococcal Toxic Shock Syndrome

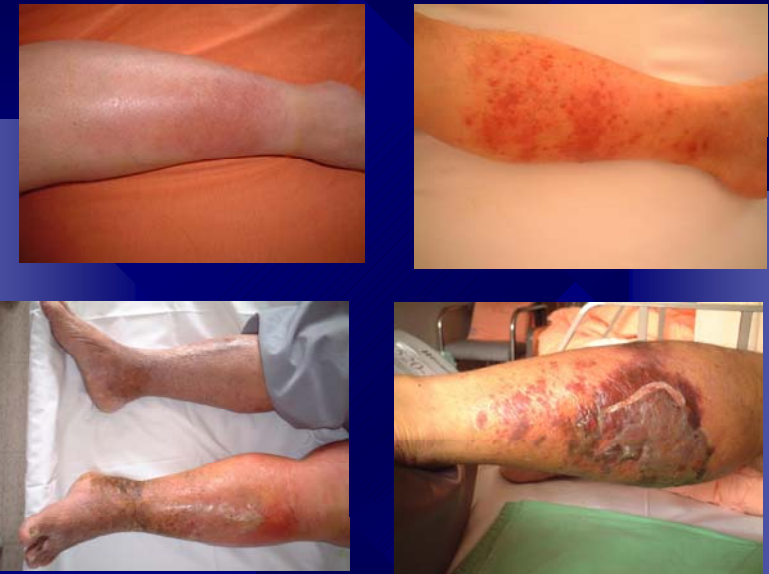
- Streptococcal infections
- gram-positive coccoid bacteria that grow in chains.
- colonize the skin and mucous membranes of animals
- On blood agar plates, streptococci may cause complete (beta), incomplete (alpha) or no hemolysis (gamma).
 - B-hemolytic Group A Streptococcus (*S. pyogens*)

Serious streptococcal skin and soft tissue infections

Erysipelas
Streptococcal Cellulitis
Necrotizing Fasciitis (Streptococcal Gangrene)
Myositis-Myonecrosis
Streptococcal Toxic Shock Syndrome

Group A streptococcal infections

- Pharyngitis
- Impetigo
- Scarlet fever
- Bacteremia
- Rheumatic fever
- Post-streptococcal glomerulonephritis
- Erysipelas, suppurative infections
- Streptococcal Toxic Shock Syndrome**



GAS

- The portals of entry for streptococci are the pharynx, skin, and vagina in 50% of cases
- Blunt trauma
- 50% of cases associated with necrotizing fasciitis

Ominous sign

- progression of soft tissue swelling to vesicles or bullae

GAS

- initial 24 hours: swelling, heat, erythema, and tenderness develop and rapidly spread
- 24 to 48 hours: the erythema darkens, changing from red to purple and then to blue, and blisters and bullae form that contain clear yellow fluid.

Infectious route

- **minor trauma** frequently
- Surgical procedures
- **viral infections** such as varicella and influenza
- **penetrating trauma**
- insect bites, slivers
- **burns**



Gas

- 4th or 5th day: purple areas become frankly gangrenous.
- 7th to the 10th days: dead skin begins to reveal extensive necrosis of the subcutaneous tissue.
- Patients become may become unresponsive, mentally cloudy, or even delirious.

Risk Factors

- Age (neonates and elderly)
- Diabetes
- Alcoholism
- Surgical procedures
- Trauma: Penetrating and Nonpenetrating wound
- Varicella
- Contact with a patient
- High prevalence of invasive strains in the community
- Nonsteroidal anti-inflammatory agents

GAS Diagnosis

- high or increasing prevalence of **M-1 or M-3 strains** among throat isolates may increased incidence of Strep TSS in that community

β -hemolytic Gr A. Streptococcus



DM foot; Gas forming



Lip S. aureus



Carbuncle



Group A Streptococcus



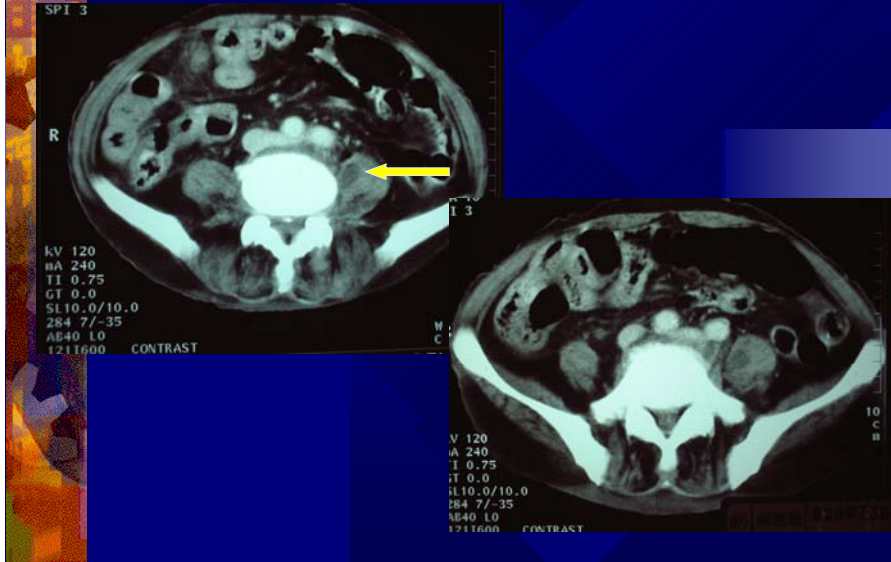
S. aureus



K. pneumoniae



Psoas muscle abscess



- Cutaneous findings include diffuse redness and edema progressing to necrosis and hemorrhagic bullae.
- Because of this rapid progression, it is important to diagnose and treat NF quickly to decrease mortality.



Fasciitis; Aeromonas



Deep neck infection



骨髓炎

- 成人:
 - 外傷：最常見, 通常為混合感染.
 - 血行感染: 脊髓. (early involvement of intervertebrae disc)
 - 致病菌: *S. aureus* 最常見.

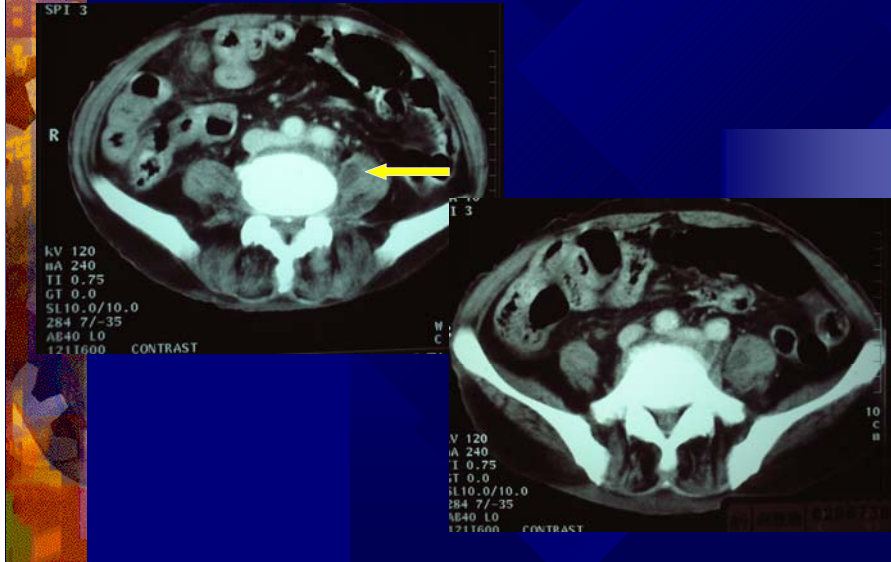
骨髓炎

- 小孩: 急性, 血行感染
 - 位置: metaphysis of long bone
 - 致病菌: <1歲: *S. aureus*, *Strept. Agalactiae*, *E. coli*.
 - >1 歲: *S. aureus*, GAS, *H. influenzae*.
- 鐵釘刺到之傷口感染: 95% 綠膿桿菌所引起.

骨髓炎



Psoas muscle abscess



☀ Questions?

DM foot; Gas forming

