Cellulitis and Necrotizing Fasciitis

Assessment

- There is often an obvious injury to the skin (laceration, abrasion) which has served as a point of entry for infection

Investigations

- The majority of children have mild disease and require no investigations
- Indicated only if systemic symptoms, suspicion of underlying infection or in immunocompromised patient
  - FBC, CRP and Blood cultures are indicated in the unwell child who appears septic
  - X-Ray if cellulitis in close proximity to bone (osteomyelitis, septic arthritis)
  - Swab (M,C & S) if discharge
  - Consider immunofluorescence for HSV if suggestive of herpes
  - Consider biopsy in the immunocompromised patient or if the infection is subacute or chronic

Management

**Cellulitis**

- Cellulitis is a non-necrotizing infection of subcutaneous loose tissue, usually caused by bacteria (occasionally fungal in immunocompromised patients)
- Cellulitis presents as an area of tender, warm skin with overlying oedematous erythema, often associated with regional lymphadenopathy and systemic signs such as fever or chills
<table>
<thead>
<tr>
<th>Cellulitis and Necrotizing Fasciitis</th>
</tr>
</thead>
</table>

**Cellulitis, erysipelas or soft tissue infection < 1 month of age**
- This includes neonates with periumbilical cellulitis (omphalitis) or those with suspected staphylococcal scalded skin syndrome
- All neonates with cellulitis should be admitted for a septic work-up and IV antibiotics
- Discuss patient with Infectious Diseases or Clinical Microbiology services

**Mild cellulitis or erysipelas ≥ 1 month of age**
- Usually *Staphylococcus aureus* or *Streptococcus pyogenes*
- Bacteraemia is unlikely
- Oral antibiotics as an outpatient
- Oral Cephalexin; see [Antibiotics](#)

**Moderate cellulitis, erysipelas or soft tissue infection ≥ 1 month of age**
- Admit
- IV Flucloxicillin; see [Antibiotics](#)

**Severe skin and soft tissue infection (rapidly progressive cellulitis, cellulitis with persisting fever or tachycardia despite 24 hours of therapy)**
- Admit
- Surgical review to consider/exclude necrotising fasciitis or deeper infection
- IV Flucloxicillin; see [Antibiotics](#)
- IV Vancomycin
- Add IV Clindamycin in severe cellulitis with shock

**Periorbital/Orbital Cellulitis**
- Refer [Cellulitis - Periorbital and Orbital](#)

**Suspected or proven necrotizing fasciitis**
- Uncommon, but very serious rapidly progressive soft tissue infection
- Characterised by extreme tenderness of the soft tissues and systemic toxicity
- There may be palpable gas in the skin
- General Surgery review is required in all cases suspected of necrotizing fasciitis (fasciotomy/debridement may be indicated)
- Admit
- Patients need aggressive broad spectrum; see [Antibiotics](#)
  - IV Flucloxacillin
  - IV Vancomycin
  - IV Clindamycin
- Discuss patient with Infectious Diseases or Clinical Microbiology services

**Nursing**
- Apply EMLA if patient condition is suggestive of requiring intravenous antibiotics

**Observations**
- Baseline observations include heart rate, blood pressure, respiratory rate, oxygen saturations, temperature and neurovascular observations (if circumferential or significant swelling).
- Minimum of hourly observations should be recorded whilst in the emergency department.
Any significant changes should be reported immediately to the medical team.

References

   External Review: Christopher Blyth (Infectious Diseases Consultant) September 2015

This document can be made available in alternative formats on request for a person with a disability.