Furunculosis

DEFINITION

Furunculosis is a localized form of otitis externa resulting from infection of a single hair follicle.

PATHOLOGY

- Bacterial invasion of a single hair follicle results initially in a well-circumscribed deep skin infection. As the infection progresses a pustule forms and this progresses to local abscess formation, often with considerable associated Cellulitis and oedema. (Deep skin infection → Pustule → Abscess → Cellulitis and oedema)
- Bacteria attach initially to the cells of the stratum corneum and proliferate around the ostium of the hair follicle. There is deeper invasion of the hair follicle between the inner and outer root sheath.

DIAGNOSIS

- Histology is the reference standard for diagnosis (but not done is routine clinical practice)
- The affected ear is extremely painful, feels blocked and exudes a scanty serosanguinous discharge. The pinna and tragus are tender on palpation.
- Otoscopic examination usually establishes the diagnosis
- If the oedema and secondary Cellulitis spreads to the post auricular crease, the condition may be mistaken for acute mastoiditis

AETIOLOGY

- Staphylococcus aureus
- Risk factors: Heat, Humidity, Trauma, Maceration
- Colonization of the external nares and, less commonly, the perineum with the pathogenic strain of S. aureus is also a contributing factor in many cases of generalized recurrent furunculosis.
- Associated conditions causing it are hypogammaglobulinaemia, diabetes mellitus and dysphagocytosis.
OUTCOMES

- If untreated, the infection usually progresses to a localized abscess which then discharges into the external ear canal. Providing there is adequate drainage the infection will resolve spontaneously
- The infection can also spread towards the deeper tissues, where it may cause a diffuse soft tissue infection spreading to the pinna, post-auricular skin and parotid gland.
- Repeated infection can cause permanent scarring and fibrosis of the external canal with subsequent meatal stenosis.

MANAGEMENT OPTIONS

- Treatment choices include:
  - oral or systemic antistaphylococcal antibiotics (penicillinase-resistant penicillin, macrolide, cephalosporin, clindamycin or quinolone)
  - topical treatment (antibiotics, astringents, hygroscopic, dehydrating agents);
  - incision and drainage.
- Glycerol and ichthammol solution has a specific antistaphylococcal action and is hygroscopic
- For patients suffering generalized recurrent furunculosis who are carriers of pathogenic strains of S. aureus:
  - eradicate: Nasal Mupirocin; Oral Flucloxacillin for 14 days.
  - bacterial interference therapy: deliberately implanting a nonpathogenic strain of S. aureus (strain 502A is the most popular) to recolonize the nares and skin.
- It has been reported that correction of specific biochemical abnormalities (e.g. hypoferraemia, low serum zinc) may lead to a marked reduction in the frequency of infections.