Frontal Bone Osteomyelitis

Synonyms: Pott's puffy tumour (PPT), osteomyelitis of the calvarium

Description
- This is osteomyelitis with a subperiosteal (extradural) abscess in the frontal bone.
- It usually represents an anterior extension of a frontal sinus infection or as a complication of a compound skull fracture.
- It can also be a complication of mastoiditis and has been reported following an insect bite.
- Streptococcus milleri group is the most common pathogen.

Presentation
- Headaches
- There may be localised swelling
- Fever
- Nuchal rigidity
- Altered mental state (from subtle changes, confusion or complete coma)
- Focal neurological signs, eg seizures

Since the advent of antibiotics, Pott's puffy tumour (PPT) has been only rarely reported (mostly in children and adolescents) but more recently has been described following intranasal and inhaled cocaine or methamfetamine abuse, and as a complication of dental sepsis.

Diagnosis
CT scan (with and without contrast) or MRI scan. CT scan may reveal bone erosion and evidence of rim enhancing abscess formation. There may be intracranial involvement, eg fluid collection and CT/MRI may also help in this.

Management
Admission with removal of the infected bone and prolonged intravenous antibiotics (eg for six weeks). Antibiotics are usually of the penicillin group, eg high dose IV benzylpenicillin for 3 weeks followed by 3 weeks of oral amoxicillin. However, all cases should be discussed with the local microbiologist and antibiotics should be altered once sensitivities are known.

Complications
- Extension of infection, eg brain abscess
- Meningitis
- Epidural empyema
- Subdural empyema

History
Percivall Pott (1714-1788) was a London surgeon (St. Bartholomew's Hospital) who also gives his name to Pott's disease of the spine (spinal tuberculosis - scrofula), and to Pott's fracture (fracture dislocation of the ankle). He was first to describe an industrially acquired disease: cancer of the scrotum in chimney sweeps.

Further reading & references
1. Pott P. Injuries of the head from external violence. 1st ed; London: C Hitch and L Hawes (1760) 47-48
10. Percival Pott; Whonamedit.com

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