Unusual complications of acute maxillary osteomyelitis in an infant

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Acute osteomyelitis of the maxilla is a distinct but rare clinical entity. Since its first description by Rees (1847), isolated cases have been reported from time to time. Kelly (1904), who called the condition "empyema of the antrum of Highmore", collected sixteen cases from the literature. Cavanagh (1960) listed 152 cases reported in more than a century. Osteomyelitis of the zygomatic and frontal bones as a complication has rarely been mentioned. In a review of cases of maxillary osteomyelitis reported since 1928, McCash and Rowe (1953) found only one with this complication. The rarity of the condition, and of this complication in particular, has prompted this report.

Case report

A 2-month-old baby boy was admitted to hospital with fever, proptosis, and swelling in the temporal region. The fever had started with redness and swelling of the right lower eyelid and the cheek 15 days previously. The swelling and redness rapidly involved the right orbit and a mucopurulent discharge from the eye was noticed 3 days later. Marked proptosis and a swelling in the temporal region appeared a week after the onset of illness.

The infant had been born at full term after a normal delivery, and there was no history of preceding skin infection in the infant or his mother.

Examination

He was moderately well built and nourished. The temperature on admission was 102°F and remained at about this level during the next few days. There was a soft swelling of the hard palate

FIGS 1 AND 2 *Proptosis and swelling involving frontal, temporal, and parotid regions*

on the right side. The right eye showed a diffuse swelling of the right orbit with marked proptosis, and perforation of the cornea had resulted from the consequent exposure keratitis. The orbital swelling was continuous with a huge fluctuating swelling involving the right frontal, temporal, and parotid regions (Figs 1 and 2). Investigation revealed no abnormality except leucocytosis, but *x* rays showed extensive osteomyelitis with destruction of the frontal and zygomatic bones (Fig. 3). A growth of *Staphylococcus aureus* sensitive to dimethylchlortetracycline was obtained from the pus culture.

Management

He was treated with streptopenicillin injections and local drainage of the abscess through an incision in the temporal region. A large amount of pus and several sequestra were removed. When the results of the pus culture were known dimethylchlortetracycline was given. The swelling decreased and the proptosis disappeared almost completely (Fig. 4). A month later the swelling recurred with a persistent sinus; pus and sequestra were again removed, the wound then healed leaving only a depressed scar at the incision site.

FIG. 3 Radiograph showing destruction of zygomatic and frontal bones

FIG. 4 Appearance one month later

Comment

This condition is most commonly seen in infants up to 12 weeks of age. It is an acute bacterial inflammation of the maxilla with necrosis and sequestration of the surrounding structures including the teeth. It starts with a high fever and oedema, chemosis, and proptosis, and the pus may point at the inner or outer canthus. The palate on the affected side is also swollen, and the alveolus is markedly thickened with or without a fistula formation in the region of the canine fossa or the first deciduous molar. *Staphylococcus aureus* is usually the organism involved (McCash and Rowe, 1953; Cavanagh, 1960). A preceding skin infection in the infant or the mother has been reported in some cases.

So constant is the clinical course of the disease and so classical are the physical signs, that the diagnosis should present no difficulty to the ophthalmologist to whom most of the cases first come. However, the condition is so rare that it may be mistaken for orbital cellulitis. A correct diagnosis in the first instance is imperative for proper management and the prevention of complications. Disfiguring scars on the face and damage to the developing teeth in the maxilla are the two most common complications, but both can be avoided by drainage through the nose under antibiotic cover. The present case was unusual because of the additional involvement of the frontal and zygomatic bones which made it unlikely that adequate drainage could be obtained through the nose. For this reason the drainage incision was made in the temporal region.

References

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