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NEWBORN OSTEOMYELITIS*

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ÖZET

YENİ DOĞAN OSTEOMİYELİTİSİ

Yeni doğanlarda görülen osteomyelit büyük çoğunlukla maksillada oluşan ancak günümüzde nadir rastlanılan bir hastalıktır. Etyolojik faktörlerin tartışılması ile beraber, erken tanı ve etkili tedavinin bu tip vakalardaki önemi tekrar vurgulanarak ilgili bir vaka sunulmuştur.

Anahtar kelimeler : Yeni doğan osteomiyelitisi, Maksiller osteomiyelitis.

INTRODUCTION

The osteomyelitis of the jaw, which is observed in healty newborn infants most commonly affects the maxilla and is usually unilateral. It is quite a rare entity and is referred in different names such as orbital phlegmone, amphyeme of the antrum, newborns' acute maxillitis as it affects the orbita, lacrimal system, nose and mouth in it's early stages (5).

Osteomyelitis of the newborn was first reported by Rees in 1847 (4). Cohen reviewed 80 cases until 1949 (5). Rowe pointed out to the fact that death was not unusual if antibiotics are not used and he reported 13 cases between 1945 to 1953 (3). In the Turkish

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literatüre the first case was reported by Borçbakan as a case of upper jaw inflammatiorı in 1953 (1).

The aim of this article is to add another case to the literatüre and discuss this rare and interesting disease.

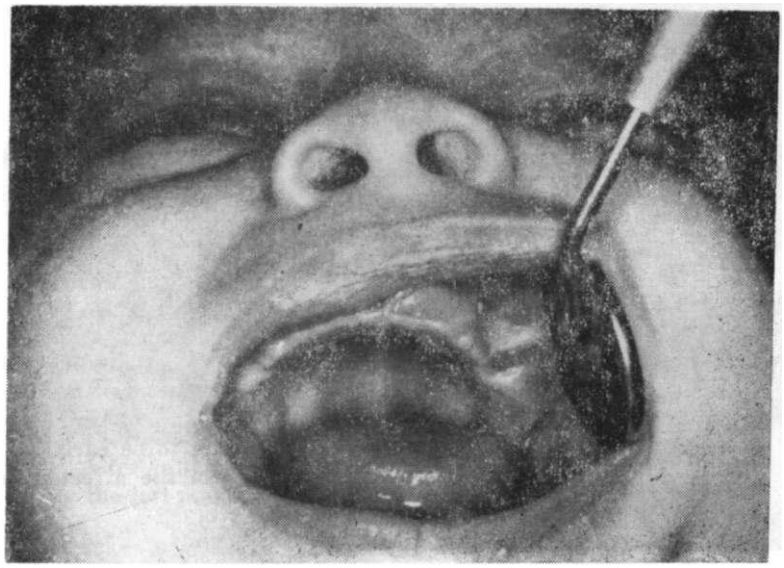
CASE REPORT

A. C. was born from a 17 year old mother at the expected date of delivery in vertex position and with forceps application. The baby weighed 2900 gm. and she developed jaundice on the sixth day. She was diseharged in good condition but she was referred to our elinic from the children's hospital on the 19th day because of fever and swelling of the left side of the face and the vestibular sulcus of the maxilla.

Clinical examination revealed a localized extra oral hyperemic swelling in the left cheek vvith slight conjuetivitis of the left eve and it's inner canthus (Figüre 1). Intraorally, the alveolar crest in the temporaray molar region was slightly edematous and red (Fig.

Figüre 1 : Extra - oral initial clinical view shows hyperemic svvelling of the left cheek towards and ineluding inner canthus of the same side.

2). The body temparature rose to 39.5°C but there was no ejection or convulsions. Erupting teeth were seen in the extra oral, lateral and Water's X - Rays (Fig. 3, Fig. 4).

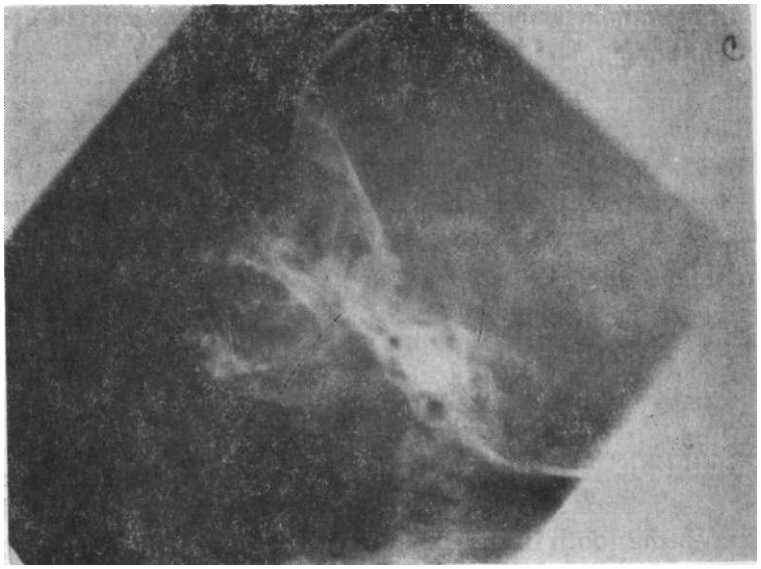


Figüre 2 : It was seen that the left maxillary deciduous molar region is rather prominent as well as slightly edematous and hyperemic.

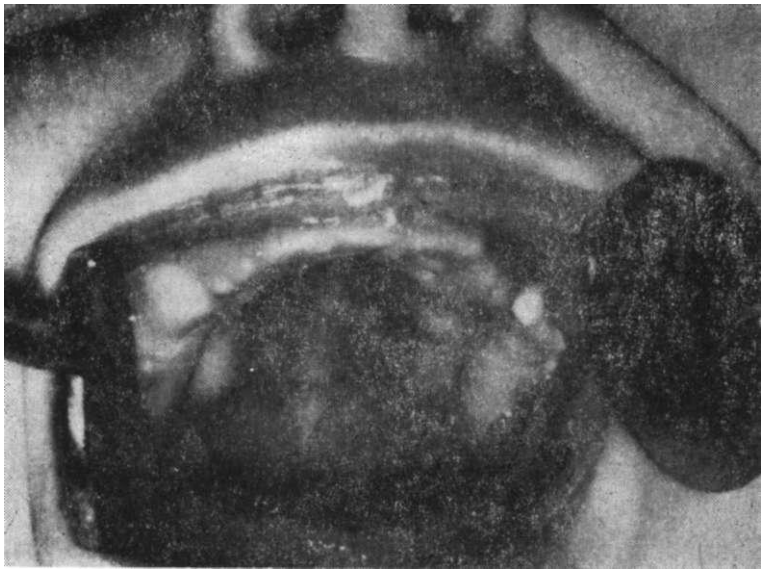
The haematological work - up revealed a white - blood - celi count of 13700/mm^3, while the bacteriological examination in the umbilical cord showed gram negative bacilli, namely E. Coli., and Staph. epidermitis. There was normal flora on the throat culture. Mother's nipples were not inflamed and a swab culture taken from this site revealed no microorganisms.

The baby was diagnosed as osteomyelitis of the upper jaw and antibiotics were started immediately. A total daily dose of 1 gm. Cepholosporin were prescribed. After 6 days of antibiotic treatment swelling of the face decreased and the temparature dropped. There was an erupting tooth in the left premolar region (Fig. 5). The tooth was extracted easily with a forceps and sample was taken from the aftercoming pus for bacteriological examination. This sample

Figüre 3 : **Lateral view of the scull shows no evidence of majör abnormalities but seeming to be early erupting teeth of the affected side.**

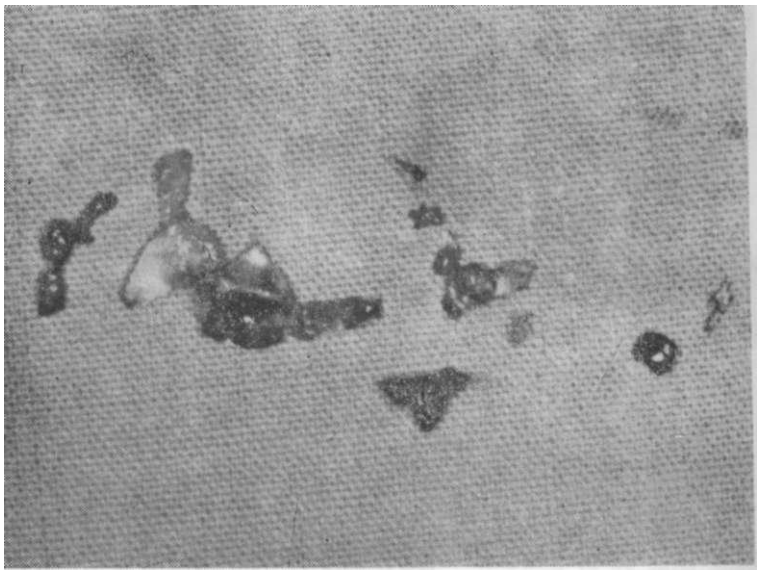


Figüre 4 : **Water's view of the face confirms lateral radiographic view of the skull.**

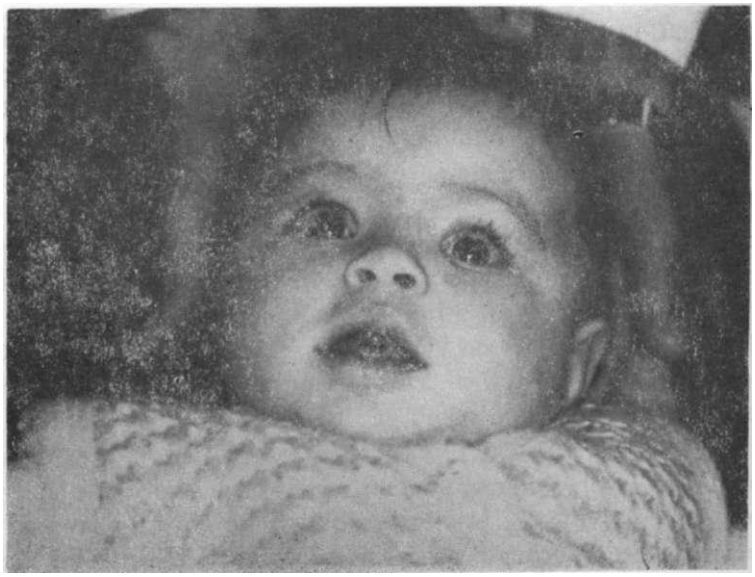


Figüre 5 : After initiating the treatment a deciduous tooth is seen in the left molar region of the baby.

revealed E. Coli and it was sensitive to eritromycine and cephazoline. Antibiotic started at the initiation of therapy was appropriate and it wasn't changed. Antibiotic therapy was continued for a total of 10 days. As it vvas impossible to make a judgement about the amount of the upper jaw that would be sequestrized, the baby vvas called for control visits every week. When the baby vvas 40 days old another tooth erupted and this was also extracted. Similarly when the baby vvas 80 days old it vvas evident that the intraoral flow of pus increased and another tooth made it's appearance. Under local anesthesia a flap vvas raised via a small incision. The erupting tooth vvas extracted together with a small sequestra and the underlying granulation tissue vvas curetted carefully (Fig. 6) and the flap sutured back to it's place. On the routine control when the baby vvas 3 months old, everything seemed to be in order both clinically and radiographically (Fig. 7). At 7 months of age it vvas observed that the maxillary temporary central incisors made their eruption and the dentition vvas normal. After this the baby vvas called for control s every 6 weeks.



Figüre 6 : The curetted material with tooth and sequetr after taken out.



Figüre 7 : Clinical view of the 3 months old baby reveals that all facial signs are stable in normal conditions.

DISCUSSION

Newborn osteomyelitis usually results from an infection caused by Staph. aureus., Streptococci, pneumoccocci, E. coli and typho bacilli can also cause this infection (2, 6, 7). In the newborn infant the appearance of osteomyelitis of the upper jaw is quite disputable. There are different opinions about the route of entrance of organisms to the maxilla. Some clinicians assert that it might be hematogen(5). It is stated that the hematogen dispersion arises from localized infections affecting the middle ear, mastoid process, tonsils and umbilical cord, while conjuctivitis and skin infections may also be the source (4). Others believe that the infectious agents reach the maxilla via orally and this point of view is less controversial (6). The first temporary molars of the infant make a protrusion on the alveolar process. When the baby's mouth is cleaned after birth, bruising of this region can easily occur and cause a site for bacterial innoculation. Through this site microorganisms can enter; i.e. from the infected birth canal, from the infected nipple of the mother, or through the hands of the health personnel, and infected feeding bottles (5).

Osteomyelitis appear when the resistance of the bone is lost or the general body resistance is broken (5,6). In our case the important point seems to be a difficult birth and forceps application. It has been postulated that forceps can have a traumatic effect on the maxilla and the local resistance of the bone is lost (6). On the other hand, the idea is strengthened that the culture taken from both after extraction of temporary molar tooth site and from the umbilical cord the grown E. coli was the factor and it reached the maxilla hematogenously.

In our case the clinical progression was not very serious. There are antibodies that protect the infant which have been passed from the mother. But on the other hand the immunologic response of the infant is not yet satisfactory. For this reason the formation of antibodies parallels the violence of the infection. The infants' tissues are also especialy suitable for growth of the pathogens. Thus osteomyelitis progress quickly with generalized and localized symptoms. In our patient the antibiotics were started without

delay. Early diagnosis and institution of a suitable antibiotic made the prognosis more favorable for this child.

The important point in this case is that sequesterotomy was done vvhen the baby was 80 days old. As an early sequesterotomy would cause loss of excessive teeth and deformity in the face it was done as conservatively as possible and vvhen the infection reached it's chronic stage.

The patient will be under our regular control in the future. It is impossible to guess the degree of developmental deformity that will result. The degree of malocclusion and facial deformity which will appear will be seen in future controls and treatment planned accordingly.

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