Acute Suppurative Parotitis in the Newborn

As reports of this condition are few in number the following case is thought to be worth recording.

CASE REPORT

On October 11 a primigravida was delivered of a female infant which suffered from a severe degree of "white asphyxia." Attempts at breathing amounted merely to an occasional gasp, and lobeline, nikethamide, aspiration of mucus from the pharynx, nasal oxygen, immersion in warm water, and, finally, mouth-to-mouth inflation through an ordinary double-layer face-mask were all employed. Normal respiration was established after 75 minutes. During the first five days of life the baby remained restless, and was spoon-fed with difficulty. She eventually settled down, but the fluid intake was barely sufficient, and oesophageal tube-feeding was employed from the seventh to the tenth day, when sucking was established. At this time, October 20, the right side of the face appeared to be slightly swollen, and by midday a large, tense, and obviously tender swelling could be felt in the parotid region, the overlying skin being red, hot, and oedematous. Pus was exuding from the orifice of Stensen's duct, and from this a heavy growth of a coagulase-positive *Staphylococcus aureus* was cultured. The rectal temperature was 99.8° F. (37.7° C.) and constitutional disturbance was not marked. Septicaemia was not suspected and blood culture was not done. There was no evidence of infection elsewhere.

The infant was given penicillin, 50,000 units three-hourly, and the mouth was cleansed hourly. It soon became apparent that drainage was inadequate, for the swelling enlarged and became fluctuant. On October 23 a small incision was made obliquely just below the angle of the mandible, and on thrusting a sinus forceps upwards into the parotid swelling about 5 ml. of thick pus was liberated. A gauze wick was inserted, and warm sodium sulphate dressings were applied four-hourly. Drainage of pus ceased after three days. At this stage it became known that the organism was resistant to penicillin, sulphadimidine, and sulphadiazine, but was sensitive to streptomycin. Penicillin injections were therefore discontinued.

On October 28 the swelling reappeared and again became fluctuant. A sinus forceps was introduced through the original incision, and a multilocular abscess was opened, liberating a further 4 ml. of pus. A small rubber drain was inserted, and streptomycin, 100 mg. intramuscularly twice daily, was given. The drain was removed after four days, and by November 10 the discharge had ceased completely, although a small quantity of pus could still be expressed from Stensen's duct. Streptomycin was discontinued. The incision was allowed to heal, and the discharge into the mouth gradually diminished until by November 16 it had ceased. The mouth was cleansed frequently, and the infant was successfully fed by bottle on a full-cream dried milk throughout the illness.

She was seen again at the age of 13 weeks, two months after discharge from the ward, and appeared very healthy. She was taking her feeds well and weighed 12 lb. 4 oz. (5.5 kg.). There was no facial swelling, and salivary secretion from Stensen's ducts on both sides was normal. The incision had healed well, and there was no evidence of salivary fistula or facial paralysis.

COMMENT

This is the seventy-third case of acute neonatal sialadenitis to be reported, so that the condition is comparatively infrequent. The incidence quoted by Bloch and Pacella (1937), for example, is 2 out of 19,550 live births over a ten-year period, while Sanford and Shmigelsky (1945) reported 5 cases out of 10,000 live births in five years. Approximately 5,600 infants have been born in the Royal Hampshire County Hospital during the past ten years, and this is the first case of acute suppurative parotitis that has occurred. The parotid is the most commonly affected gland. Plewka (1921) collected from the literature 51 cases of sialadenitis, 41 of which were parotid infections.

There are two possible modes of infection—haematogenous and ascending. A haematogenous—that is, metastatic—infection of the gland cannot occur in the absence of a pre-existing septicaemia, and evidence of its existence may not be substantiated in every case, either by a positive blood culture or by the discovery of a primary source of infection. Shulman (1950) suggests that maternal sepsis with placental transmission may account for obscure neonatal septicaemia; but this seems improbable, since most cases of maternal sepsis occur after the placenta has separated. In the present instance, with no suggestion of either maternal sepsis or neonatal septicaemia, the evidence favours an ascending infection. The mild dehydration with dry mouth about the fifth day of life, the oesophageal-tube feeding with consequent lack of reflex salivary stimulus, and the cleansing of the mouth with a gauze-covered finger may well have predisposed to ascending infection.

Immediately before the onset of this illness a minor epidemic of ophthalmia neonatorum occurred in the nursery, and phage-typing revealed that an organism identical with the one isolated from the parotid abscess was present in the conjunctivae of three affected infants, on the hands of two nursery attendants, and in the noses of four. This suggests that the abscess arose as the result of cross-infection. A suggestion that mouth-to-mouth inflation might have caused the infection was not substantiated bacteriologically, for throat swabs taken from the attendants who performed this resuscitation did not grow the staphylococcus.

Staph. aureus is the usual infecting organism, and it is well known that newborn infants are particularly susceptible to it. However, streptococci (haemolyticus and viridans), pneumococci, *Bact. coli*, *Bact. alkaligenes*, and *Oidium albicans* have been isolated by different observers.

Treatment.—Chemotherapy has not entirely obviated the necessity for incision. Shulman reported two cases successfully treated with penicillin alone, and this drug has largely superseded the sulphonamides. All but four of the reported cases treated with sulphonamides required incision. These four, reported by Neuhauser and Ferris (1945), were given two or three 125 r doses of x rays in addition, and recovered without incision in two to six days. They claimed that theirs was the treatment of choice, avoiding the scarring and possible sequelae of incision. On the other hand, Latchmore, La Touche, and Shucksmith (1940), in treating adult cases by this method, found that, once suppuration had occurred, incision could not be avoided. In most of the cases which they treated with x rays, salivary function had returned to normal within 14 days of cessation of treatment.

An incision is best made obliquely below the angle of the mandible—although Reisman and Fischer (1946) state that the risk to the facial nerve imposed by a vertical pre-auricular incision is negligible—and a sinus forceps should be thrust upwards into the abscess, exploring it until all its loculations have been broken down. The importance of this last point, and the necessity to ensure adequate drainage at the initial incision, cannot be overstressed: the risk of producing a fistula is small.

Complications of acute suppurative parotitis—salivary fistula, facial palsy, septicaemia, mediastinitis resulting from pus tracking down the carotid sheath, and rupture into the external auditory meatus—are very uncommon, but a purulent discharge from the external auditory meatus should be borne in mind as a possible mode of presentation.

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