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Neonatal submandibular suppurative sialadenitis

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Suppurative sialadenitis should be remembered as a potential source of infection in preterm neonates.

We recently encountered two cases of suppurative sialadenitis involving only the bilateral submandibular glands on our neonatal intensive care unit (NICU) within a 3-week period. Methicillin-resistant *Staphylococcus aureus* (MRSA) was detected in purulent material discharged from the Wharton ducts in both cases. Acute suppurative sialadenitis in the neonatal period is an extremely rare disease. Only five cases have been reported [1, 2, 4], four of which involved preterm newborns. In Japan, the very high frequency of MRSA contamination in NICUs is a considerable problem. We describe our two cases to alert clinicians to the need for caution.

The first case, a boy with a birth weight of 1815 g, was delivered spontaneously at 32 weeks of gestation. Pregnancy, labour and delivery were uncomplicated. The infant required nasal directional positive airway pressure overnight on day 0 because of transient tachypnoea of the newborn. No antibiotics were given since there was no sign of infection in the perinatal history or laboratory data. Feeding via nasogastric tube was begun on day 2. On day 7, the infant developed a temperature of 38.0 °C and mild apnoea. A firm submandibular mass, 1 × 2.5 cm in diameter on the right, and a tender mass, 1 cm in diameter on the left, were noted. There was no swelling, tenderness or erythema in either parotid area. Purulent exudation from the Wharton ducts was noted when the submandibular masses were pressed on day 11 (Fig. 1). MRSA was cultured from the exudates. This exudation persisted for 7 days. The white blood cell count (WBC) was 14,500/mm³ and the ratio of immature to total neutrophils was 0.16. Serum amylase was not increased. The submandibular masses showed a steady decrease in size after intravenous administration of vancomycin.

The second case was another boy, birth weight 1560 g, born in our institute at 32 weeks of gestation by caesarean section because of suspected intra-uterine infection. However the infant's respiratory state was stable; intravenous administration of piperacillin and netilmicin was begun on day 0 due to an elevated WBC count and C-reactive protein level. Antibiotics were given for 7 days. On day 12, the infant developed mild apnoea and a firm submandibular mass, less than 1 cm in diameter, was found on the left. MRSA was also cultured from a purulent material squeezed from the submandibular mass. Although the WBC count was 27,000/mm³, serum amylase was not increased. After intravenous administration of vancomycin for 7 days, the submandibular mass promptly decreased in size.

The aetiology of submandibular suppurative sialadenitis in our two cases remains unclear. Dehydration has been proposed as a predisposing factor [3]. In both of our cases, sufficient feedings were given via nasogastric tube and no clinical signs of dehydration were recognised.

Infections of the salivary glands are uncommon in the neonatal period and most often involve the parotid gland. We encountered this disease as an isolated lesion in our NICU for the first time in 20 years. This event may reflect the serious situation as to MRSA contamination in our NICU, as many other NICUs in Japan have difficulties to control them. Our attitude to give easily broad

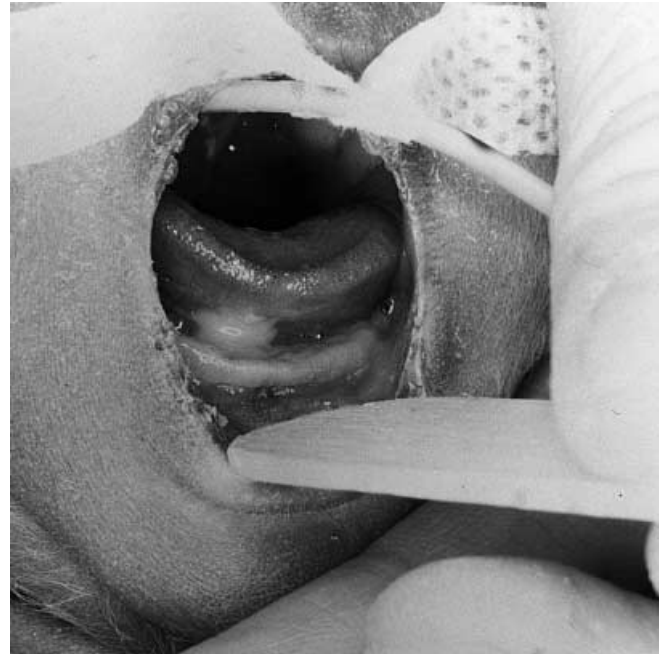


Fig. 1 An open mouth revealing a purulent exudation from the Wharton duct in our first case

spectrum antibiotics, as in our second case, should be changed. However, it is possible that other cases were not diagnosed because the mass is usually small and antibiotics are often used in preterm newborns without identification of a focus of infection. In fact, if we had not managed our first case, the second case might not have been recognised. As a potential infection in preterm newborns, this disease should be kept in mind.

References

1. Bafaqeeh SA (1998) Complicated neonatal submandibular suppurative sialadenitis. *Int J Pediatr Otorhinolaryngol* 44: 267–271
2. Banks WW, Handler SD, Glade GB, Turner DH (1980) Neonatal submandibular sialadenitis. *Am J Otolaryngol* 1: 261–263
3. Leak D, Leake R (1970) Neonatal suppurative parotitis. *Pediatrics* 46: 203–207
4. Wells DH (1975) Suppuration of the submandibular salivary glands in the neonate. *Am J Dis Child* 129: 628–630

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