Methicillin-Resistant *Staphylococcus aureus* as a Cause of Neonatal Suppurative Parotitis

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Introduction

Neonatal suppurative parotitis is an uncommon illness in the neonate, with only about 100 cases published in the world literature over the last 60 years.1 This relatively rare entity generally responds well to antibiotic therapy, but does have the potential for serious complications. Here, we present two cases of neonatal suppurative parotitis, highlighting one case caused by methicillin-resistant *Staphylococcus aureus* (MRSA). Included is a review of the English-language literature published on this disease to date.

Report of Cases (Continued)

Within 6 months, another patient presented to our institution with neonatal suppurative parotitis. This patient, a 28-day-old female, also presented with fever and left-sided periauricular swelling. Her birth history was significant for a 27-week vaginal delivery and subsequent NICU stay. This patient’s mother, similar to the previous case, had premature rupture of membranes. Upon re-admission to the hospital, the same empiric antibiotic regimen described above was begun, and within 3 days the area of preauricular induration had progressed to a small fluctuant region. A postauricular incision & drainage procedure yielded 2 cc of purulent material, cultures of which grew methicillin-sensitive *Staphylococcus aureus*. The patient was treated with nafcillin for the remainder of her hospital stay, and was discharged home on cephalaxin. Both patients recovered without any long-term sequelae of the condition.

Discussion

Neonatal suppurative parotitis (NSP) is an uncommon disease, as only 41 cases have been published in the English literature since 1951. The typical presentation includes swelling and erythema of the skin overlying the parotid gland, as well as a purulent discharge from Stensen’s duct.2 Furthermore, systemic symptoms are often present and may include fever, poor oral intake, and irritability.

The most common organism isolated in neonatal suppurative parotitis is *Staphylococcus aureus*, representing 63% of all positive cultures. However, several other organisms have been implicated in the pathogenesis of this disease (Table 1). Other gram-positive organisms that have been isolated include several *Streptococcus* species as well as coagulase-negative *Staphylococcus*. Less commonly, gram-negative organisms or polymicrobial infections are isolated.

In 29 of 41 cases, the illness resolved with antibiotic therapy alone. Eleven (27%) patients required surgical drainage despite antibiotic therapy. Complications are commonly associated with NSP and have included two cases of facial palsy,2,3,13 bacteremia,5,6-8,14 The overall mortality rate was 12% (5 of 41 patients). Despite the potential mortality associated with the disease, it is important to note that no deaths have been reported in the English literature since 1970, likely reflecting the contribution of improved antibiotic therapy in treating NSP.

This report is particularly significant in that one patient was found to have MRSA as the causative agent of neonatal suppurative parotitis. Only one other case of MRSA neonatal parotitis has been reported in the English-language literature. Managoli6 reported the case of a 14-day-old neonate who presented with bilateral parotid swelling. Blood cultures were positive for MRSA. This patient was treated successfully with antibiotics, and did not require surgical intervention. In our case, despite the patient’s clinical improvement while on antibiotic therapy, incision and drainage was required secondary to significant suppurative of the parotid gland.

An important point is that both patients’ abscesses were drained through postauricular incisions, thus obviating any facial scars.

MRSA has become endemic in hospital-acquired infections in the United States. According to the Centers for Disease Control and Prevention (CDC), 63% of all hospital-acquired *Staphylococcus aureus* infections were attributable to MRSA by the year 2004.23 This is in contrast to only 2% of which were attributable to MRSA in 1974. Although it is recognized that community-acquired MRSA is increasing in frequency, a recent CDC study revealed that 85% of all MRSA infections were health-care associated.22 In our case, the neonate had spent time in a local neonatal intensive care unit, where he was likely exposed to the pathogen.

The impact of these findings cannot be understated. As the prevalence of MRSA infections continues to increase, its susceptibility to various antibiotics is diminishing. Recent reports describe emerging strains of resistance to both clindamycin and vancomycin, which have been heavily relied upon in the treatment of this infection.24 As the incidence of MRSA in neonatal suppurative parotitis increases, the challenge will be to find antibiotics to which the infection remains susceptible. In cases where this proves difficult, early surgical intervention may begin to play a more significant role to avoid potential complications and to hasten resolution of the disease process.

References