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Case Report

Acute suppurative parotitis: A rare entity in early infancy

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Abstract. Acute suppurative parotitis (ASP) is a rare entity in early Infancy. The clinical presentation may be non-specific. Here, we describe a 70-day-old breast-fed female infant with massive purulent drainage from the mouth. Diagnostic workup such as ultrasound revealed purulent exudate from Stensen's duct consistent with parotitis. Culture of the exudate showed growth of *Staphylococcus Aureus*. Based on the clinical presentations and ultrasound findings, the patient was diagnosed with right ASP. The patient responded well to a 7-day antibiotic therapy and supportive measures. Thus ASP should be considered in the differential diagnosis of a neonatal parotid swelling and purulent drainage from the mouth, since early and prompt diagnosis prevents morbidity and complications. To the best of our knowledge it is the first documented case of ASP in early infancy in Iran.

Keywords: Parotitis, Infant, Infection

Introduction

Acute suppurative parotitis (ASP) is rarely encountered in the neonatal and early infancy age group [1-3]. The peak incidence of this disease is between the age of 2 and 14 [4]. Due to the rarity of acute suppurative parotitis, it is important to gain exact and extensive insight into the general and specific aspects of the pathological changes of salivary glands, in these age groups for prompt diagnosis to prevent complications. Here, we describe a female infant with acute suppurative parotitis, due to the rarity and unusual presenting signs i.e. massive purulent drainage from the mouth. A study by Spiegal et al identified only 32 cases over four decades in the English literatures, and found a 72% male prevalence [2]. However, to the best of our knowledge it is the first documented case in Iran. The clinical characteristics and treatment options of this rare infection are also reviewed.

Case Report

A 70-day-old breast-fed female infant presented with a 1-day history of fever and purulent drainage from the mouth. She was born at 38 weeks gestation via natural vaginal delivery with a birth weight of 2960 grams. Perinatal history was unremarkable.

Her postnatal course was further complicated by the development of neonatal poor feeding and sepsis. On the day of admission, she presented with purulent drainage from the mouth associated with low grade fever and irritability. Her weight was 4600 g and axillary temperature was 38.5 degree centigrade.

The parents reported no history of trauma to the infant's face or head, and the mother denied any history suggestive of mastitis or recent skin infection. General examination revealed an irritable, non-toxic looking, febrile infant. She was in a state of normal hydration and perfusion.

The anterior fontanelle was normotensive and the occipito-frontal circumference was 38.5 centimetre. Examination of the head and neck revealed a diffuse, tender, firm 3.0×3.0 centimetre area of induration with mild enlargement of the right mandibular and right preauricular region (the zone of the parotid gland) (Fig. 1). The overlying skin was mildly inflamed with no obvious erythema or warmness. Pus exuded from the right inflamed Stenson's duct especially when pressure was applied to the gland. The rest of the physical examination was unremarkable. Parotid pus, blood, and urine cultures were obtained.

Initial laboratory tests showed a hemoglobin level of 9.7 g/dl and total white blood cell count of 15200 /mm3 with 57% neutrophils, 40% lymphocytes. Blood culture for bacterial growth was egative. The erythrocyte sedimentation rate was 77 mm/h and C-reactive protein, 54/3 mg/dl. The renal and liver function tests, serum electrolytes, and

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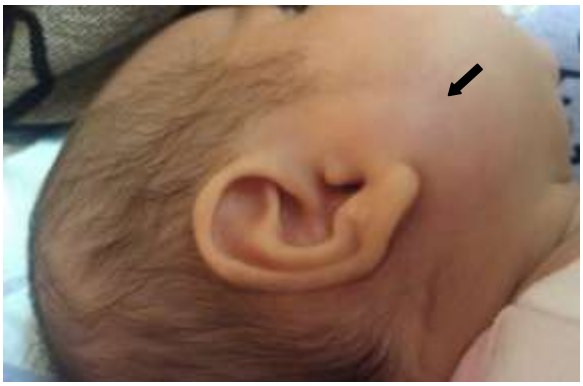

Figure 1 Mild enlargement of the right mandibular and right preauricular region (arrow).

urine analysis were normal. Direct smear from Stensen's duct showed gram positive *Cocci* with 6-8 white blood cells and the culture showed growth of *Staphylococcus Aureus*. In sensitivity studies, the organism was sensitive to vancomycin, cephalexin, novobiocin, ceftriaxone, ciprofloxacin, cefazolin andtrimethoprim/sulfamethoxazole. Ultra-sonography of the parotid glands revealed an enlarged right parotid gland with heterogeneous echogenicity compatible with ASP, without any abscess formation. Cervical and intraparotid lymph nodes were normal. Based on the clinical presentations and ultrasound findings, the patient was diagnosed with acute right ASP. She was treated with a 7-day course of parenteral clindamycin at 10 mg/kg/doses every 6 hours and amikacin at 15mg/kg/day. After 3 days of parenteral antibiotics therapy, the fever resolved and on the 5th day of treatment the parotid swelling gradually resolved. Follow-up examination demonstrated no residues or abnormalities of the gland and she did not show chronic recurrent parotitis.

Discussion

The most common presentation of ASP is fever, swelling and erythema in the pre-auricular area [5]. Purulent drainage from Stenson's duct is pathognomonic of this condition, and culture of the exudate will both confirm the diagnosis and is of great help in the treatment [5]. The diagnostic criteria of suppurative parotitis include: a combination of parotid swelling, purulent exudation from Stenson's duct, and growth of pathogenic bacteria in the pus culture [6, 2].

Our patient fulfilled all these criteria. Although the diagnosis of ASP is primarily based on the patient's clinical findings, but examination with ultrasound as a non-invasive and useful option may help confirm the diagnosis (as was applied in our patient), differential diagnosis to exclude other predisposing factors such as the anatomical abnormalities of Stenson's duct, mechanical salivary duct obstruction secondary to sialolithiasis, and infection related to parotid gland, and neoplasms are also of great importance [5].

Advanced imaging studies may be considered when the diagnosis is in doubt to rule out other congenital and inflammatory disorders of the parotid gland [5]. Bacterial seeding of the parotid can occur hematogenously, but infection is more common from oral flora tracking in a retrograde fashion into the gland [5]. Although, several risk factors for the development of ASP have been identified, but our patient did not show any such risk factors.

These risk factors include: low birth weight, oral trauma, immune suppression, and congenital variations in the ductal structure. Sepsis and malnutrition are also frequently observed in infants with parotitis. Dehydration is another risk factor as it causes salivary stasis leading to bacterial ascent from the oral cavity [7, 5]. Breastfeeding or contaminated formula can transmit bacteria and potentially cause sialadenitis [8]. In our case, the infant was breastfed but her mother did not show any signs of mastitis as it is reported by Sekhon et al [9].

The differential diagnosis of facial swelling that may be confused with parotid enlargement includes: maxillary infections, trauma, lymphangiomas, hemangiomas, lipomas, adenomas, extrapulmonary manifestations of tuberculosis and the human immunodeficiency virus in susceptible populations [5, 10].

In conclusion, although ASP is rare, it should be strongly considered in cases of neonatal and infantile sepsis associated with facial swelling with or without any predisposing factors, as septic parotitis could be easily missed without careful examination.

Conflict of Interest

The authors declare no conflicts of interest.

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