

## CASE REPORTS

## Neonatal Suppurative Parotitis - A Case Report

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## ABSTRACT

A 9-day old male neonate was admitted for fever. He was born at term with normal antenatal records and a smooth transition from in utero to ex utero. He was febrile and had a left-sided pre auricular hot, tender, erythematous swelling and oral purulent discharge from Stensen's duct. The septic profile was suggestive of sepsis. Ultrasonography revealed parotid gland enlargement with pus collection. Empirical antibiotics started, and parotid swelling pus drained. Culture of Pus from parotid swelling and Stensen's duct yielded growth of *Staphylococcus Aureus*. According to the sensitivity report, antibiotics continued for ten days, and the patient was discharged after complete resolution of signs and symptoms.

**Keywords:** Neonate, Pakistan, Parotitis, *Staphylococcus aureus*, Supportive.

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## INTRODUCTION

Neonatal suppurative parotitis (NSP) is a rare entity in the neonatal period with an estimated prevalence of 3.8 per 10000 cases.<sup>1</sup> Different causes of pre-auricular swelling include facial trauma, subcutaneous fat necrosis, lymphangioma, hemangioma, lipoma, parotid duct anomalies, glandular abnormalities, lymphadenitis and osteomyelitis. Pathogenesis of NSP involves the haematogenous spread of infection or ascending infection via Stensen's duct from the oral cavity.<sup>2</sup> Risk factors for NSP are prematurity, oral cavity trauma, glandular structural abnormalities, dehydration, Stensen's ductal obstruction and maternal mastitis.<sup>3</sup> The most common causative organism is *Staphylococcus Aureus*, but other bacteria like *Escherichia Coli*, *Pseudomonas aeruginosa*; Group B *Streptococcus*, *anaerobes*, and *Haemophilus Influenza* have been reported.<sup>4,5</sup>

Diagnosis is based on clinical examination, raised inflammatory markers, raised serum amylase and Ultrasonography (USG). Management involves parental antibiotics, supportive care and rarely surgical intervention.

## CASE REPORT

A term male baby was born to a G1P0 mother by Elective Lower Segment Caesarean Section (ELSCS) with normal APGAR and did not require any support at birth. Mother had regular antenatal visits with normal anomaly scans. The first neonatal examination was done immediately after birth and 2nd at 24 hours

of life, which did not show any abnormality.

On the ninth day of life baby was admitted with concerns of lethargy, decreased feed intake and fever. On examination, he was lethargic, well-hydrated, but febrile. Vital signs and systemic examination were normal. Anthropometric data was at the 50th centile, but a left-sided pre-auricular swelling was noted. Local examination revealed an approximately 3×4 cm erythematous, firm, tender, painful and hot swelling overlying the left pre-auricular area (Figure-I).



**Figure-I:** Local examination showing erythematous, firm, tender, painful and hot swelling overlying the left pre-auricular area.

In addition, purulent discharge from the left Stensen's duct orifice in the oral cavity was observed when pressure was applied over the left parotid gland (Figure-II). This fluid was sent for microbiological examination and culture.

Necessary investigations, including sepsis screening and blood culture, were sent. USG revealed a markedly swollen left parotid gland with increased vascularity and pus formation. Serum amylase and C-reactive protein (CRP) were markedly raised with

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neutrophil leukocytosis. A diagnosis of acute suppurative parotitis was made based on examination and investigations. Empiric intravenous treatment with Amikacin and Linzolid was started with surgical consultation. The paediatric surgeon did incision drainage of swelling, and pus was drained from the gland. Purulent discharge from the left Stensen's duct and fluid from parotid swelling yielded growth of *Staphylococcus Aureus* with susceptibility to Amoxicillin + clavulanic acid, Cephadrine, Cloxacillin, Fusidic acid, Gentamicin, Amikacin and Linzolid. The parotid swelling improved within the treatment. USG of both parotid glands was performed after seven days of antibiotic treatment and showed that the left parotid gland had normalised in size and vascularity. After ten days of treatment, the patient was discharged after normalisation of sepsis markers without any complications. The patient has been on follow-up visits for six months without recurrence.



**Figure-II:** Purulent discharge from the left Stensen's duct orifice in the oral cavity.

## DISCUSSION

Acute neonatal suppurative parotitis is a scarce disease. Male predominance and unilateral with equal involvement of the right/left parotid gland have been reported in the literature. Affected neonatal age ranges from 3-33 days with a mean age of  $17.3 \pm 10.5$  days.<sup>3</sup> Presenting symptoms are incessant crying, refusal to take feed, fever, facial swelling and non-specific symptoms of sepsis. Usually, there is a pre-auricular swelling with signs of inflammation limited to the anatomy of the parotid gland. Sometimes there is a purulent discharge from Stensen's duct of the involved gland and its pathognomic sign.<sup>4</sup> Investigations results are usually non-specific, like leukocytosis with neutrophilia and raised CRP. Raised serum amylase is usually found in only 25% of cases, as in our case. Parotid gland USG findings depend upon the stage of infection ranging from enlargement of the gland to increased vascularity to pus formation. Parotid gland USG also

help in the differential diagnosis of parotid swelling other than parotitis. Microbial examination and culture of purulent discharge from the parotid duct and gland will yield growth of the involved organism. Diagnosis of neonatal suppurative parotitis can be based on parotid gland swelling, purulent discharge from Stensen's duct, increased inflammatory markers, and the growth of involved bacteria.

Management involves parenteral empirical antibiotics like antistaphylococcal and aminoglycoside, keeping in mind the spectrum of involved bacteria. Later on, these can be adjusted according to cultural sensitivity patterns. We treated our case with Amikacin and linzolid. Supportive management includes good hydration, adequate feeding and pain killers. The majority of the cases resolve completely with antibiotics. However, a small number may develop complications like abscess formation inside the gland and extension of infection to surrounding structures like the mandible, temporomandibular joint, lymph nodes, jugular vein and facial nerve.<sup>7</sup> Surgical intervention, which was indicated in our case, is hardly ever indicated for pus drainage.<sup>8</sup>

**Conflict of Interest:** None.

## Authors' Contribution

SH: Conception, data collection, analysis, drafting, final approval, accountability, SSA.; MH: Conception, analysis, drafting, final approval, accountability.

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