

Case Report

Bilateral suppurative parotitis in a neonate: a case report

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ABSTRACT

Acute suppurative parotitis is a very rare ailment to be encountered in the neonatal period. Here, we report a 13-day old hemodynamically stable neonate, who presented to us with bilateral tender, erythematous parotid swelling and purulent discharge exuding from stensen's duct. He was exclusively breast fed and had no other risk factors. Provisional diagnosis of acute suppurative parotitis was made with clinical examination. On investigating, there was neutrophilic leukocytosis, elevated acute phase reactants, ultrasonogram showed hypoechoic areas and a heavy growth of *Staphylococcus aureus* was isolated on pus culture. Baby underwent incision and drainage on the day of admission and was started on appropriate parenteral antibiotics along with supportive management. There was a significant clinical response over next 24 hours. He was doing well throughout the hospital stay and antibiotic course was completed based on culture sensitivity pattern. He neither had any immediate complications during hospital stay nor developed any late complications on follow up. Prognosis of the condition is excellent with adequate timely management. Authors would like to report this case for its rarity and to emphasize on fact that though the condition is uncommon, acute neonatal parotitis should be included in the differentials of any unilateral or bilateral neonatal parotid swelling, as early diagnosis and prompt management of this entity is mandated for a favorable outcome and to limit complications drastically.

Keywords: Neonate, Parotid swelling, Pre-auricular swelling, Suppurative parotitis

INTRODUCTION

Acute suppurative parotitis in a neonate is a rare disease with prevalence of about 3.8/10,000 admission.^{1,2} There have been 32 cases of neonatal parotitis that have been described over the past 35 years.^{3,4} It is found that among salivary glands, parotids gets infected often, due to non-bacteriostatic property of its serous fluid. Risk factors known to be involved are prematurity, structural abnormality, formula feeding, dehydration, sialolith, nasogastric intubation, nose blowing practices, trauma, bacterial ascent from oral cavity and immunodeficiency.⁵⁻⁷ Based on many of the review articles it is evident that in most cases affected, causative organism involved was *Staphylococcus aureus*.

However, many more other organisms like *Streptococcus pyogenes*, *Streptococcus viridians*, *Klebsiella pneumoniae*, *Escherichia coli*, *Pseudomonas aeruginosa* have also been cultured.⁵⁻⁸ Diagnosis is made by clinical examination. Investigations like hemogram, imaging studies (to rule out sialolith) and exudate culture are warranted to know the severity and extent of the disease process and to opt treatment modality. Parenteral antibiotic administration should be prompt as it is found to be ideal stay of management. Surgical intervention is decided based on clinical status of the baby and distinction of the lesion. Here authors report a 13-day old male neonate with acute suppurative parotitis diagnosed and managed at our tertiary care center.

CASE REPORT

A 13 days old male neonate who was exclusively breast-fed presented with swelling of bilateral parotid region for 5 days, fever and irritability for 1 day and pus discharge from mouth for 1 day. He was born to primi mother at term gestation by normal vaginal delivery, with birth weight of 3500 g with smooth perinatal transition and had no antenatal or postnatal complications.

On presentation baby was irritable, nontoxic, normothermic. His weight was 3320 g, length-49 cm, occipito-frontal circumference-35 cm, heart rate 140/min, respiratory rate-44/ min, blood pressure was 60/42 mm/hg and perfusion were adequate. On examination, there was bilateral parotid swelling which approximately measured 3x5 cm associated with tenderness and erythema (Figure 1).



Figure 1: A 13-days neonate with bilateral parotid swelling.

Pus exuded from Stensen's duct when pressure was applied to swelling.



Figure 2: Pus exuding from incision site.

Investigations revealed neutrophilic leucocytosis, ESR was 115 mm/ hours and CRP-2.4 mg/dl. Ultrasonogram was done which showed hypo-echoic areas' after

2.4md/dl. Gram staining of pus showed plenty of gram-positive cocci in chains/pairs and pus culture grew *Staphylococcus aureus*, sensitive to penicillin. Incision and drainage were done bilaterally on the day of admission (Figure 2).

Intravenous ampicillin+ cloxacillin with amikacin was given for 7 days. Baby recovered completely with no complications and was discharged on 8th day of admission. He was also followed up till infancy, but he had no further serious or recurrent infections and was healthy with normal development.

DISCUSSION

Acute suppurative parotitis is a very infrequent infection to be encountered in neonatal period as well as infancy. On reviewing the literature, Spiegel R et al, analyzed all published case reports on neonates with contracted suppurative infection of parotid gland.¹² He found that most of the cases had unilateral involvement whereas our baby had bilateral involvement.² Also, 35% to 40% of affected ones were born prematurely. It is proposed that extended risk of dehydration and sparse salivary secretion augment the risk of NSP in preterm babies but ours was a full term previously healthily neonate. The disease is put forth to be more prevalent among boys, with gender ratio of 3:1.³⁻⁵

Staphylococcus aureus is the most commonly responsible microorganism, accounting for 55% of the cases.^{6,7} Other organisms isolated were *Streptococcus pyogenes*, *Streptococcus viridians*, *Klebsiella pneumoniae*, *Escherichia coli*, *Pseudomonas aeruginosa*.⁸⁻¹⁰ Less commonly Pepto streptococcus, coagulase-negative *Staphylococcus*, few other gram negative bacilli and anaerobes were also reported.^{5,11,12}

It is hypothetical that among salivary glands, parotids are more prone for infection because its serous secretions are non-bacteriostatic. Risk factors established were prematurity, structural glandular abnormality, formula feeding, nasogastric intubation, facial trauma, immunosuppression or immunodeficiency. Bacterial ascent from oral cavity and sepsis induced hematological spread may also occur.^{7,13}

Mechanical obstruction caused by sialolith and neoplasm should be excluded by imaging. The main stay of treatment is administration of parenteral antibiotics for 7-10 days, appropriate to sensitivity pattern of causative organism. Incision and drainage are performed in cases of well-defined abscess formation, based on necessity.¹⁴

Differential diagnosis of lymphadenitis, cellulitis, soft tissue abscess was considered. Cellulitis adenitis syndrome due to late onset GBS infection is more common than parotitis. Reported complications of NSP include salivary fistula, facial palsy, deep space neck

infections and ear infections, all of which had poor prognosis.¹⁵ None of these were present in our baby.

CONCLUSION

Acute suppurative parotitis should be suspected in a neonate with unilateral or bilateral preauricular swelling, although it is very rare. It becomes important because earlier diagnosis and conservative management with appropriate antibiotics are proved essential to have good outcome and survival rate with effective reduction in morbidity and complications.

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