Suppurative Parotitis and Submandibular Sialadenitis

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ABSTRACT

Suppurative involvement of salivary gland in neonates is a rare disorder. Parotid gland being the most commonly involved. We described a case of suppurative parotitis leading to abscess formation and subsequent involvement of the submandibular gland. Incision and drainage of the abscess was performed, most of the purulent material was drained. Symptoms and signs resolved within 2 days. Pus culture grew *Staphylococcus aureus*

Key words:
Abscess, neonate, parotitis

INTRODUCTION

Suppurative parotitis in neonates is a very rare disorder. This disease has a prevalence of about 3.8/10,000 admissions.[1] Sialadenitis and cervical lymphadenitis are frequently caused by Gram-positive cocci in children. Submandibular sialadenitis is diagnosed frequently in neonatal intensive care unit setting.[2] Infectious adenitis has been rarely reported in neonates, 40 cases of neonatal suppurative parotitis and only 17 cases of isolated submandibular sialadenitis have been reported in English literature.[3] We describe a 18 days old neonate with suppurative parotitis associated with submandibular abscess, which was treated by incision and drainage.

CASE REPORT

The present case report is about an 18 days old full term female neonate presented to our department with swelling in parotid and submandibular area on left side for 6 days. The swelling was associated with fever. Further history revealed a small hole below the mandible draining pus. On examination, the baby was toxic running high grade fever and irritability. The local examination revealed a swelling about 5 cm × 4 cm in size in parotid area extending down to submandibular and submental area. There was a pustule near submental area draining purulent material. Overlying skin was erythematous and swelling was fluctuant [Figure 1].

Further examination revealed that upon pressing the swelling, purulent material was extruding through the floor of the mouth [Figure 2]. Aspiration of the swelling revealed pus. The base line investigation were done which showed leucocytosis - 18,000/µl with neutrophillis - 80%, kidney and liver function tests were normal, Incision and drainage of the abscess was done about 30-40 ml of frank pus was drained. Pus was sent for culture sensitivity. Patient was already put on amoxicillin + clavulanate (15 mg/kg orally every 12 h). Post-operatively, patient was given antibiotics for 2 days. After 4-days no abscess was found on follow-up clinical examination. Pus culture sensitivity grew *Staphylococcus aureus*. Mothers milk was sent for culture and sensitivity and was sterile. Local examination of mothers breasts was also normal. In follow-up after two weeks and then at 1 month of discharge from hospital, baby had completely recovered.

DISCUSSION

Parotitis is an uncommon entity in neonatal period. Suppurative parotitis is usually unilateral and may progress to abscess formation. Among salivary glands; the involvement of parotid gland is more common than submandibular gland.[4,5] Most common organism involved is *S. aureus*. The risk factors include dehydration, prematurity and duct stasis.[1,6] The risk of parotitis in premature babies may be related to dehydration leading to stasis in the salivary gland ducts due to reduced secretions.[7] Most common mode of spread is tracking of oral flora in a retrograde fashion into gland, although gland may get invaded with bacteria through the blood stream. Decreased salivary production and stasis, dilatation of ducts through

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Figure 1: Left parotid and submandibular abscess

Figure 2: Spontaneous intraoral drainage of pus

scaring or obstruction by stone, variation in ductal structure may lead to retrograde flow from oral cavity.[7] Another potential cause of transmission of bacteria is during the breast feeding and a through contaminated formula, as in the present case infant was breast fed, but the mother had no signs of mastitis, as the history of maternal mastitis can act as a source of bacterial invasion as described by Tapısız *et al.*[8] Breast feeding cannot be considered as a risk factor for suppurative parotitis as there are more chances of contamination with formula feeds.

As in our case the history of initial appearance of swelling and erythema were in the preauricular area which then progressed subsequently to involve the submandibular and submental area. The disease may be unilateral or bilateral. In our case, the disease was unilateral and involved submandibular glands too. Examination with ultrasound is readily available, cheap, noninvasive and useful for diagnosis and differential diagnosis and excluding abnormality of Stenosis of the duct, siolith.[5] Purulent drainage from Stensen's duct is diagnostic of the suppurative parotitis as is demonstrated in our case. In a report of Spigel *et al*., the most common pathogen was *S. aureus*, which was found in 55% of the patients.[7] In our patient, *S. aureus* was grown in the parotid pus culture.

The main stay of the treatment is to use antibiotics to cover the causative organism i.e., *S. aureus*.[7,9] The duration of antibiotics treatment is described is 7-10 days in literature.[4,5] However as our baby had large fluctuant swelling we decided to do the incision and drainage of the abscess. We found that after incision and drainage antibiotics had to be given for 1-2 days and the hospital stay was also reduced by 4-5 days. Although incision and drainage is less frequently used in this modern antibiotics era but it has still got a very important role in frank abscess formation as in our case. Incision and drainage also helps to isolate the organism and appropriate antibiotic needed in case of some residual purulent material remains in the abscess cavity.

Although the parotitis is very rare in neonates as described it should be suspected in neonates with erythematous preauricular swelling. Delay in diagnosis and treatment may lead to involvement of surrounding glands as in our case. And in case of frank purulent nature of the abscess treatment should be incision and drainage which the promptly decreases the burden of septic focus, duration of antibiotic therapy and hospital admission.

REFERENCES

1. Spiegel R, Miron D, Sakran W, Horovitz Y. Acute neonatal suppurative parotitis: Case reports and review. Pediatr Infect Dis J 2004;23:76-8.
2. Davis TK, Pinheiro JM, Lepow M, Dangman B, Mouzakes J. Submandibular sialadenitis and lymphadenitis in neonates: Epidemiology and relation of secular trends in the incidence of *Staphylococcus aureus* sepsis. Webmed Central Paediatrics 2011;2:WMC001873.
3. McAdams RM, Mair EA, Rajnik M. Neonatal suppurative submandibular sialadenitis: Case report and literature review. Int J Pediatr Otorhinolaryngol 2005;69:993-7.
4. McQuone SJ. Salivary gland diseases. Otolaryngol Clin North Am 1999;32:5793–811.
5. Schwab J, Baroody F. Neonatal suppurative parotitis: A case report. Clin Pediatr (Phila) 2003;42:565-6.
6. MacDorman MF, Minino AM, Strobino DM, Guyer B. Annual summary of vital statistics – 2001. Pediatrics 2002;110:1037-52.
7. Özdemir H, Karbuz A, Ciftçi E, Fitöz S, Ince E, Doğru U. Acute neonatal suppurative parotitis: A case report and review of the literature. Int J Infect Dis 2011;15:e500-2.
8. Tapisiz A, Belet N, Ciftçi E, Fitöz S, Ince E, Doğru U. Neonatal suppurative submandibular sialadenitis. Turk J Pediatr 2009;51:180-2.
9. Singh K. Bilateral parotid abscess in a neonate. Indian Pediatr 2006;43:1009-10.

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