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Case Report

Parotid gland abscess in an underweight infant: A comprehensive analysis

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ABSTRACT

We report a case of a 7-month-old underweight male infant who developed a unilateral parotid abscess due to *Staphylococcus aureus* infection and was managed with surgical intervention. An acute parotid abscess is uncommon in paediatric patients but can occur in neonates and premature infants with certain risk factors. Parotitis, the most common inflammatory condition of the parotid gland, usually responds well to medical management but can occasionally progress to a parotid abscess. Conservative management with hydration, oral hygiene, and antibiotics is recommended, but if the disease worsens, suppurative parotitis or parotid abscess can develop. *S. aureus* and anaerobic bacteria are the most common pathogens, with streptococci and candida also reported. Ductal stones are rare in children and parotid abscesses are usually non-obstructive. Differential diagnosis should consider other conditions such as trauma, lymphadenitis, and neoplasia. Computed tomography scans are preferred for complications or suspected neoplastic lesions. Incision and drainage in paediatric patients can have good outcomes, but there is a risk of facial nerve damage.

Keywords: Parotid abscess, Underweight, Infant, Newborn, Parotitis, Abscess, Drainage

INTRODUCTION

An acute parotid abscess is an uncommon occurrence in paediatric patients and it usually occurs in neonates and premature infants with risk factors such as prematurity, low birth weight, dehydration, prolonged orogastric feeding, immunosuppression, and parotid duct anomalies. Common cause includes infections such as viral, bacterial, and rarely fungal, autoimmune conditions, ductal calculi, or stenosis.[1,2] Acute parotitis, which is the most common inflammatory condition of the parotid gland, seldom sporadically turns into a parotid abscess. Unilateral disease is more commonly reported. Common organisms isolated are *Staphylococcus aureus*, *Streptococcus pyogenes,* and anaerobes.[3,4] The role of ultrasound is crucial in distinguishing inflammatory changes from the collection of pus thus directing the management plan. Here, we report a case of a 7-month-old underweight male infant who developed a unilateral parotid abscess due to *S. aureus* infection and was managed with surgical intervention.

CASE REPORT

A 7-month-old male infant, developmentally normal for his age, immunised till date, underweight [Table 1], presented to paediatric emergency with chief complaints of swelling in the right cheek for the past 7 days and fever for 3 days subsided with paracetamol, not associated with chills and rigors.

The swelling was diffuse, insidious in onset, and gradually progressed over 7 days to a size of ~4 × 4 cm at the time of presentation with warmth and tenderness over the swelling. There was no history of recent fever/upper respiratory tract infection, poor feeding or poor activity. There was no history of contact with tuberculosis. The child had papular lesions all over the body and was diagnosed with a case of scabies after a dermatology consultation which was managed with 5% permethrin ointment. General and systemic examination was normal and blood investigations were done for the infant [Table 2].

Ultrasonography of the right parotid appeared heterogeneous with a 2.3 × 2.1 cm heterogenous hypoechoic area with minimal internal echoes. The blood culture taken at the time of presentation was sterile. The patient was started on intravenous antibiotics (cloxacillin and clindamycin) and intravenous fluids. Incision and drainage were done [Figure 1] and ~15 mL pus was drained and sent for exudate culture, Genexpert, and acid-fast bacilli smear. *S. aureus* was isolated in pus culture which was sensitive to clindamycin, oxacillin, a combination of trimethoprim and sulfamethoxazole, tetracycline and erythromycin, and cloxacillin and clindamycin which were continued as per sensitivity report. In Genexpert, no mycobacteria were detected. Daily cleaning and dressing were done and the patient was discharged.

Table 1: Anthropometric data of the infant.

Measure	Patient	Interpretation	Comments
Weight	7.5 kg on admission	0–1z	Severe underweight
Height	62 cm	0–1z	Normal
Head circumference	43 cm		

Table 2: Blood investigations.

Haemoglobin	9 g/dL
Total leukocyte count	28,610/mm^3
Differential leukocyte count	Neutrophil-49%, Lymphocytes-44%
Platelet count	4.03 lacs/mm^3
Mean corpuscular volume	69
Mean corpuscular haemoglobin	19.9
Haematocrit	32.9
Sodium	137 mmol/dL
Potassium	4.73 mmol/dL
Serum albumin	3.57 g/dL

Figure 1: 7-month-old male infant with the right parotid swelling with incision given for abscess drainage.

DISCUSSION

Acute parotitis is the most common inflammatory condition of the parotid gland and usually responds well to medical management but seldom sporadically evolves into a parotid abscess.[5] Parotid abscess is more common among elderly or immune-compromised patients, but their presentation in immune-competent healthy children and adults is well documented in clinical practice.[3]

Parotitis should be conservatively managed with adequate hydration, good oral hygiene, and antibiotics if indicated.[6] However, if treatment is inadequate and/or the disease progresses, suppurative parotitis or parotid abscess can develop with serious complications.[7] Various bacteria cause suppuration of the parotid gland, with *S. aureus* and anaerobic bacteria being the most common pathogens reported and streptococci encountered, as well.[3,4] Furthermore, there is a case report of candida as a causative organism.[8] Although tuberculosis is endemic in India but is rarely the causative organism. A recent study showed a possibility of 13-valent pneumococcal conjugate vaccine-derived parotitis in an infant.[2]

Ductal stones are rare in children and parotid abscess formation is in most cases of non-obstructive origin.[1]

Furthermore, a differential diagnosis which includes, trauma, lymphadenitis, hemangioma, adenoma, lipoma, parotid gland duct anomalies, intraglandular abscess, and neoplasia should be kept in mind.[8]

Ultrasonography is the basic radiological investigation of salivary gland swellings and should be the initial imaging modality. Computed tomography scans were preferred over ultrasonography where complications or a neoplastic lesion in a deep location or bone infiltration are suspected.[6,9]

Management of parotid abscess includes pus drainage and appropriate antibiotic therapy.[6] Drainage of the pus within the gland can be done either by needle aspiration or incision and drainage of pus. Most paediatric incisions and drainage do not have a complication and show good outcomes while rarer complications, of which most frequently being facial

nerve damage can occur in paediatric patients hence making aspiration or exclusive medical therapy generally preferable to incision and drainage.[5]

CONCLUSION

Although uncommon in children, parotid abscess should be considered as a differential for parotid swellings. Early diagnosis, appropriate antibiotics, and surgical drainage are key for good outcomes. This report adds to the limited literature on parotid abscesses in infants.

Ethical approval

The research/study complied with the Helsinki Declaration of 1964.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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