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Retropharyngeal Abscess Masquerading As Mumps In A 7-Month-Old: A Rare Case Report

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ABSTRACT

Aim*:* To present a rare but potentially life-threatening case of retropharyngeal abscess (RPA) in an infant with mumps, highlighting the critical role of early recognition, appropriate imaging, and prompt surgical management in preventing airway compromise.

Background*:* Mumps is a contagious viral illness primarily seen in children, often characterised by swelling of the parotid glands. While generally self-limiting, it can occasionally result in serious complications. One such uncommon but severe complication is a retropharyngeal abscess—an infection in the deep neck space that can lead to significant morbidity due to airway obstruction. In infants, this diagnosis is particularly challenging, making early detection vital to avoid fatal outcomes.

Case Description*:* A 7-month-old infant was brought in with a 10-day history of high fever, difficulty feeding, excessive drooling, noisy breathing, and neck stiffness. Despite receiving antibiotic treatment elsewhere, there was no improvement, necessitating referral to a higher centre. Upon evaluation, the child was started on broad-spectrum antibiotics, and radiological imaging revealed a retropharyngeal abscess on the right side. Given the impending risk of airway compromise, an emergency transoral incision and drainage procedure was performed. The child responded well to the intervention and completed recovery without complications, subsequently being discharged in stable condition.

Conclusion*:* This case underscores the necessity for timely identification and intervention in infants with suspected RPA, especially when secondary to infections like mumps. Imaging studies are essential for accurate diagnosis, while a combination of broad-spectrum antibiotics and surgical drainage forms the cornerstone of effective management. Maintaining a high index of suspicion in children presenting with upper airway symptoms can significantly reduce the risk of serious complications.

Keywords: *Retropharyngeal abscess, Mumps, Infant, Airway obstruction, Surgical drainage*

1. INTRODUCTION

Mumps is a viral illness primarily affecting children and is commonly characterised by bilateral parotid gland swelling. Despite being self-limiting in most cases, complications, though rare, can be significant. One such rare but potentially life-threatening complication is the development of a retropharyngeal abscess (RPA). RPA is an acute infection in the deep tissues of the neck, usually occurring in children under five years of age due to the presence of retropharyngeal lymph nodes that regress with age. These infections may arise from upper respiratory tract infections, lymph node suppuration, or trauma to the posterior pharynx [1][2]

In infants, early signs may be subtle and nonspecific, often mimicking more benign conditions such as mumps. When left untreated or misdiagnosed, RPA can rapidly progress to severe complications such as airway obstruction, mediastinitis, or sepsis. The deep location of the infection and the potential for rapid deterioration necessitate high clinical suspicion, thorough imaging, and timely surgical intervention [3].

This report highlights a rare case in which a 7-month-old infant initially suspected to have mumps was later diagnosed with RPA. The child presented with a 10-day history of high-grade fever, refusal to feed, drooling, and noisy breathing. Clinical suspicion of a deep neck space infection led to imaging, which confirmed a right-sided retropharyngeal abscess. Due to the risk of airway compromise, the patient underwent emergency surgical drainage via a transoral approach, followed by a full recovery [4].

The case emphasises the need for vigilance in infants presenting with upper respiratory symptoms and neck swelling, especially when initial treatments are ineffective. Diagnostic imaging, such as lateral neck radiographs and contrast-enhanced

computed tomography (CECT), plays a critical role in confirming RPA. Moreover, multidisciplinary management involving paediatricians, radiologists, and ENT surgeons is vital for successful outcomes [5].

Given the potential for rapid clinical deterioration, prompt initiation of broad-spectrum intravenous antibiotics and early surgical drainage remain the cornerstone of RPA management. This case underlines the importance of differentiating RPA from other common paediatric infections like mumps and showcases the necessity of timely clinical intervention to avoid potentially fatal complications [6].

2. CASE DESCRIPTION

A 7-month-old infant was brought to the Emergency Department at Dr. Prabhakar Kore Hospital, Belagavi, by her mother with complaints of high-grade fever, refusal of feeds, drooling of saliva, and noisy breathing. The infant had also exhibited restricted neck movements for the past 10 days, raising concern for a deep neck space infection.

Upon presentation, the infant was febrile, with difficulty in suckling and noticeable hoarseness of cry. Routine haematological investigations showed anaemia and leucocytosis, indicative of an ongoing infectious process.

To assess the extent of the infection and confirm the diagnosis, a lateral X-ray of the neck was done & revealed an increase in the prevertebral space and narrowing of the trachea, (Figure 1A)

Following this, an ultrasonography of the neck was performed, which showed an ill-defined collection in the right retropharyngeal space. This collection was seen displacing the surrounding anatomical structures, including the parapharyngeal space, which is consistent with the presence of a retropharyngeal abscess.

A contrast-enhanced computed tomography (CT) scan of the neck revealed a hypodense collection in the right retropharyngeal space, measuring 2.6 x 1.4 x 6.3 cm, extending from the level of the C1 vertebra down to T2. The collection was found to extend into the nasopharynx and was noted to compress the trachea. (Figure 1B)

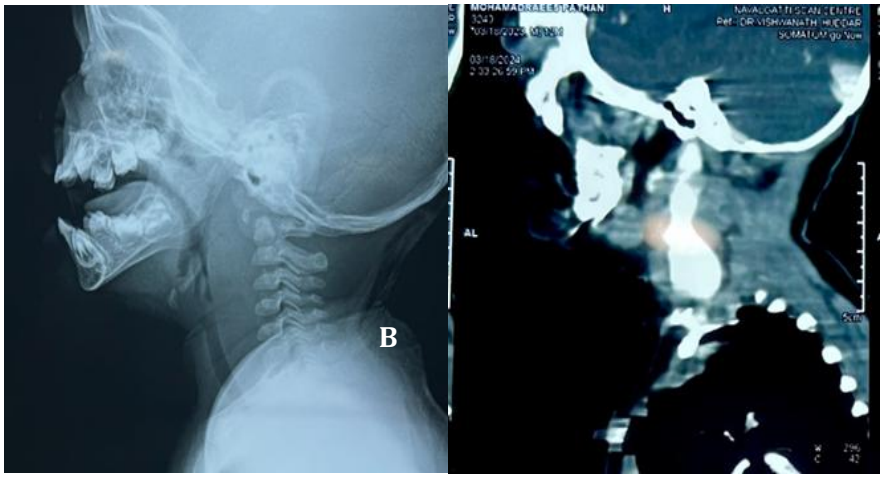

Figure 1: Lateral X-ray of the neck

The infant was started on medical treatment, but due to the risk of airway compromise, surgical intervention was done. The patient was referred to KLE Hospital for further care, where an emergency incision and drainage of the retropharyngeal abscess was performed via a transoral approach under general anaesthesia.(Figure 2A & 2B)

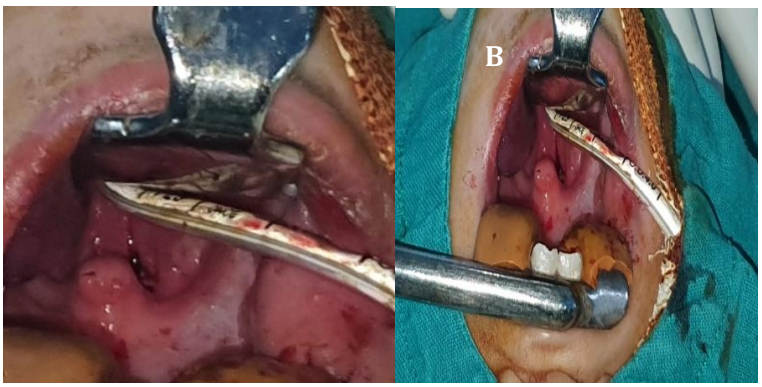

Figure 2A &B: Surgical Treatment of Retropharyngeal Abscess

Figure 3A,B & C: Pus aspirated from the abscess

The postoperative period was uneventful, and the infant was started on RT (tube) feeds following surgery. On the 3rd postoperative day, oral feeding was successfully resumed. The child was followed up regularly and made a full recovery.

3. DISCUSSION

The retropharyngeal space is an anatomically significant area located between the buccopharyngeal fascia and the prevertebral fascia, extending from the skull base to the upper thorax. It communicates laterally with the parapharyngeal space, allowing for the potential spread of infections and increased morbidity. In infants and young children, retropharyngeal lymph nodes are more prominent and susceptible to infection, especially following upper respiratory tract infections (URIs) [7][8].

Retropharyngeal abscesses (RPAs) in paediatric patients typically arise following suppurative infections of these lymph nodes. Mumps, a viral illness caused by the paramyxovirus, is generally not associated with deep neck space infections. However, rare instances of mumps leading to secondary bacterial infections such as RPA have been reported. The immunosuppressive effects of viral infections may predispose to bacterial superinfections in some cases [9].

In this case, the child initially exhibited symptoms consistent with mumps: parotid swelling, fever, and irritability. However, progression to drooling, noisy breathing, and restricted neck movement warranted further investigation. The failure of initial antibiotic treatment raised concerns about a deeper, more complicated infection. **Bockelman C, et. Al, 2018** emphasised the importance of continuous clinical monitoring and the readiness to reevaluate initial diagnoses when symptoms evolve or fail to resolve [10].

Diagnostic imaging was pivotal in this case. The lateral X-ray of the neck suggested prevertebral space widening and tracheal narrowing—classic signs of RPA. However, plain radiographs alone may miss up to one-third of RPAs due to low sensitivity. CECT provided a detailed view, revealing a hypodense collection extending from C1 to T2 vertebrae and compressing the trachea, confirming the diagnosis [11].

The risk of airway compromise necessitated urgent surgical intervention. A transoral approach was selected, allowing direct drainage of the abscess. Approximately 10 mL of pus was evacuated, relieving the airway pressure and resolving the obstruction. Postoperative care involved intensive monitoring in the paediatric ICU, initial tube feeding, and gradual reintroduction of oral intake. The patient responded well, showing marked clinical improvement [12].

RPA remains a diagnostic challenge due to its nonspecific early signs and overlap with more benign conditions. The key to successful management lies in early suspicion, especially when patients do not respond to standard therapies. This is particularly crucial in low-resource settings or in populations with limited access to vaccination and healthcare, where complications of common viral infections may be more prevalent [13].

Antibiotic therapy plays a critical role. Empirical treatment should cover common pathogens, including Streptococcus species, Staphylococcus aureus, and anaerobes. In this case, intravenous broad-spectrum antibiotics were initiated immediately upon suspicion. Despite medical management, surgical drainage was necessary due to the abscess size and location [14].

The case also underscores the importance of a multidisciplinary approach involving emergency physicians, paediatricians, radiologists, anaesthesiologists, and ENT surgeons. Coordination among teams ensured the child received timely surgical care, proper airway management, and appropriate postoperative support, contributing to the favourable outcome [15].

The rarity of RPA as a complication of mumps further adds to the case's significance. It highlights that even common viral

infections can occasionally present with atypical and severe complications, demanding astute clinical judgment and adaptability in diagnosis and management strategies. Early detection and decisive intervention are paramount to prevent morbidity and mortality [16].

4. CLINICAL SIGNIFICANCE

Retropharyngeal abscess (RPA) is a rare but potentially fatal complication in infants, particularly when associated with common viral infections such as mumps. This case illustrates the importance of maintaining a broad differential diagnosis when evaluating paediatric patients with upper respiratory symptoms, fever, and neck swelling. Failure to respond to initial antibiotic therapy should prompt clinicians to investigate deeper infections using imaging modalities like X-ray and contrast-enhanced CT scans. Prompt recognition and intervention are essential, as RPAs can progress rapidly to airway obstruction and sepsis. Surgical drainage, combined with broad-spectrum antibiotic therapy, remains the cornerstone of treatment. This case underscores the importance of early clinical suspicion, multidisciplinary management, and timely intervention to prevent life-threatening complications and achieve favourable outcomes in paediatric patients.

5. CONCLUSION

Retropharyngeal abscess, though uncommon, is a serious complication in infants that can arise even from viral illnesses like mumps. This case highlights the critical importance of early diagnosis through imaging and clinical vigilance, particularly when symptoms persist despite initial treatment. Prompt surgical drainage and appropriate antibiotic therapy are essential in managing RPA effectively. Clinicians must maintain a high index of suspicion in children presenting with neck swelling, feeding difficulties, and respiratory distress. Multidisciplinary collaboration and timely intervention are crucial in preventing complications such as airway obstruction and sepsis. This case highlights paediatric deep neck infection awareness and prompt action.

CONFLICTS OF INTEREST

The authors declared that there is no conflict of interest.

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All authors contributed significantly to this manuscript.

AUTHOR INFORMATION

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