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Case Report

Endoscopic adenoidectomy in a 13-month-old child with failure to thrive: a case report

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ABSTRACT

Adenoid hypertrophy is a common cause of upper airway obstruction in infants and toddlers. When severe, it can cause significant symptoms such as nasal obstruction, feeding difficulties, failure to thrive and sleep disturbances. Timely surgical intervention is crucial for symptom resolution and optimal growth. A 13-month-old male presented with breathing difficulty, mouth breathing, snoring and difficulty in feeding. Clinical examination revealed suprasternal and intercostal retractions. A lateral nasopharyngeal radiograph showed significant adenoid hypertrophy, which was confirmed as Grade 4 on nasal endoscopy. The child underwent endoscopic adenoidectomy under general anesthesia. Postoperatively, there was marked improvement in respiratory and feeding symptoms. At three-month follow-up, the child had gained 2 kg, with no recurrence of symptoms, indicating a successful outcome. Endoscopic adenoidectomy in infants with significant adenoid hypertrophy is a safe and effective intervention. It improves airway patency, feeding and growth and should be considered in severe symptomatic cases even at a younger age.

Keywords: Adenoid hypertrophy, Endoscopic adenoidectomy, Feeding difficulty, Growth delay, Pediatric airway obstruction

INTRODUCTION

Adenoid hypertrophy is commonly encountered in children and may contribute to upper airway obstruction, chronic nasal congestion, otitis media and obstructive sleep apnea (OSA). While often managed conservatively in older children, in infants and toddlers it can lead to more serious issues, including failure to thrive due to feeding difficulty and hypoxia-related developmental delays.[1] Although adenoids naturally enlarge in early childhood, pathological hypertrophy in infants is less common and often under-recognized.[2] Diagnostic confirmation typically involves lateral radiographs or nasal endoscopy, with surgical management reserved for severe or persistent cases.[3] The surgical indications for adenoidectomy as stated on the website of the American Academy of Otolaryngology/Head and Neck surgery as of 2017 include[4] Four or greater episodes of recurrent purulent rhinorrhea in prior 12 months in a child < 12 years of age. Persisting symptoms of adenoiditis after two courses of antibiotic therapy. One course of antibiotics should be with a β-lactamase stable antibiotic for at least 2 weeks. Sleep disturbance with nasal airway obstruction persisting for at least 3 months. Hyponasal speech. Otitis media with effusion for over 3 months or associated with additional sets of tubes. Dental malocclusion or orofacial growth disturbance documented by orthodontist or dentist. Cardiopulmonary complications including cor pulmonale, pulmonary hypertension and right ventricular hypertrophy associated with upper airway obstruction. Otitis media with effusion (age 4 or greater).

CASE REPORT

A 13 months old male presented with difficulty breathing, especially during feeding. Recurrent cold and nasal obstruction. Mouth breathing and loud snoring and

sleep disturbances. Feeding intolerance with breathlessness on oral intake.

Past medical history

The child was born at 33 weeks of gestation (preterm) and required admission to the neonatal intensive care unit (NICU) for 6 days due to breathing difficulties. At 3 months of age, the child experienced an episode of cold accompanied by breathing difficulty, necessitating an 8-day stay in the intensive care unit (ICU). Since then, the child has had recurrent episodes of cold and cough. In view of persistent breathing difficulty and noisy breathing, a bronchoscopy and sleep study were performed, both of which yielded normal results. The child has been clinically diagnosed with Down syndrome.

Examination findings

Suprasternal and intercostal retractions. No cyanosis, fever or structural anomalies.

Investigations

Lateral nasopharyngeal X-ray showed significant adenoid tissue causing near-total nasopharyngeal airway obstruction (Figure 1). Nasal endoscopy under GA revealed Grade 4 adenoid hypertrophy completely occluding the choanae (Figure 2).

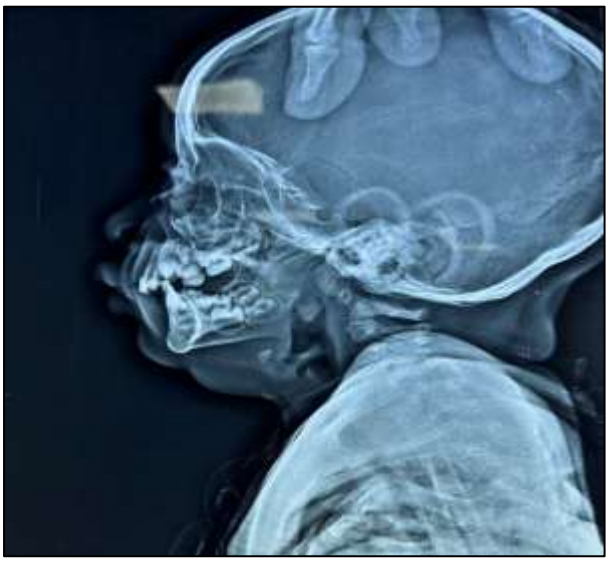

Figure 1: X-ray nasopharynx (lateral view) showing significant adenoid hypertrophy.

Treatment

The child underwent endoscopic adenoidectomy under general anesthesia. Powered instrumentation (Micro-debrider) was used for precise and complete removal of hypertrophied adenoid tissue. Hemostasis was achieved and the patient was monitored postoperatively in the pediatric ward. The procedure was uneventful.

Figure 2: Nasal endoscopy - shows grade 4 adenoid hypertrophy.

Figure 3: Postoperative X-ray Nasopharynx at 3 months.

Outcome and follow-up

The child was discharged the next day after stable vitals and satisfactory oral intake.

At 1-month follow-up, the child showed resolution of snoring, absence of feeding-related breathlessness, improved sleep quality

At 3-month follow-up

Weight gain of 2 kg, no recurrence of nasal obstruction, cold or mouth breathing, normal feeding and sleep behavior. X-ray nasopharynx (Figure 3) good nasopharyngeal airway.

DISCUSSION

Severe adenoid hypertrophy in infants, though rare, can severely affect feeding, breathing and overall growth. In this case, the obstruction was significant enough to result in feeding difficulty and poor weight gain. Early intervention prevented complications such as failure to thrive and chronic hypoxia. Endoscopic adenoidectomy allows for precise visualization and complete excision, minimizing the risk of regrowth and damage to surrounding structures.[3] Studies support the role of adenotonsillar surgery in improving weight gain and growth parameters in symptomatic children.[5,6] In children under 2 years of age, surgery is approached cautiously; however, in this case, the benefits outweighed the risks and the child showed marked postoperative improvement.

CONCLUSION

This case highlights the importance of recognizing adenoid hypertrophy as a significant contributor to respiratory and feeding difficulties in infants. Endoscopic adenoidectomy is a safe and effective treatment that can lead to rapid symptom relief and improved growth outcomes. A high index of suspicion, timely imaging and early surgical referral are key to successful management.

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