CASE REPORT

A rare case of pedunculated tonsilar mass in a child

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ABSTRACT

Pedunculated polyps of palatine tonsils are rare and have been described using various terms. Most of the cases have been reported in adults with variable symptoms. We report a two and a half years old male child who presented with history of snoring and inability to lie down flat and sleep due to chocking and difficulty in breathing. Clinical examination revealed a mass extending from nasopharynx to the base of the tongue. A diagnosis of pedunculated palatine tonsilar mass was made intaoperatively and the mass was excised under general anesthesia. An unusual presentation of a rare condition in a pediatric patient has been discussed along with the airway management.

Key words: Pedunculated oropharyngeal mass; Pedunculated palatine tonsil; Difficult airway; General anesthesia

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INTRODUCTION

Pedunculated polypoid palatine tonsils are relatively rare.[1] Literature search for similar cases revealed that majority of these cases had been reported in adults while an entity 'lymphoid papillary hyperplasia' or 'papillary lymphoid polyp' is reported exclusively in children.[2,3] Although majority of similar disease entities can adequately be evaluated by CT scan, magnetic resonance imaging (MRI) may provide additional vital information in many cases. In our case it was not considered feasible as the baby was uncooperative to undergo CT or MRI without sedation. Whereas, sedation was highly risky due to mass causing obstruction and choking. Even preoperative clinical diagnosis was a dilemma, whether the mass was of a nasopharyngeal origin or of a tonsilar origin. Moreover, the mass looked to be very vascular. All these factors lead to anticipation of a difficult airway. Obstruction of the oropharyngeal airway by hypertrophied tonsils leading to apnea during sleep is an important clinical constellation referred to as obstructive sleep apnea syndrome. Despite only mild to moderate tonsillar enlargement on physical examination, these patients have upper airway obstruction while awake and apnea during sleep. We present a rare case report of a two and a half years old child with this condition.

CASE REPORT

A two and a half years old male child, weighing 10 kg presented to hospital, whose mother complained that the child was making unusual sounds while breathing for the last two weeks and his condition had worsened for the last few days. The child had not slept for the last two days because of difficulty

in breathing and woke up as if he was choking. Oropharyngeal examination revealed a mass extending from the nasopharynx to the base of his tongue and almost completely obstructed the posterior pharyngeal wall view. X-ray of head and neck was inconclusive, whether the mass arose from nasopharynx or a tonsilar mass because the mass was covering the whole area. Magnetic resonance imaging could not be performed as the baby could not be expected to undergo MRI without sedation and there was a strong fear of loss of airway with sedation. The baby was febrile, but had no cough and cold and was hemodynamically stable. So it was planned to excise the mass under general anesthesia via oral route the next morning. Broad spectrum antibiotics were started IV.

In the operating room, the baby was cooperative, afebrile, had no cough and cold, but snoring could be heard. His chest was clear with vesicular breathing and equal air entry bilaterally. No added sound was heard other than transmitted sound. General physical examination was unremarkable, pulse rate was 128/min, blood pressure was 80/48 mmHg. Both the heart sounds were normal. Abdominal and neurological examination did not reveal any abnormality. There was no history suggestive of a bleeding disorder.

Airway examination showed adequate mouth opening with no trismus or restricted neck movements. A mass was seen covering almost whole of the oropharyngeal inlet, extending from nasopharynx to the base of the tongue. Balanced salt solution with dextrose 5% was started through a 22 G IV cannula and the baby was taken to the operating room without sedation. Preparations for tracheotomy were undertaken. The baby was premedicated with injection glycopyrrolate 0.05 mg IV. Standard monitoring was attached; all of the physical parameters including SpO_2 were noted to be within normal limits. Difficult airway trolley was prepared in anticipation. General anesthesia was induced with halothane in 100% oxygen and after smooth induction when adequate depth was achieved, laryngoscopy was done without any muscle relaxant by a senior anesthesiologist. Utmost care was taken not to injure the mass. The glottis view was found to be Cormack and Lehane grade III and the baby was intubated using 3.5 mm ID uncuffed ETT. Proper position of the tube was confirmed by capnography and auscultation of breath sounds bilaterally inj. fentanyl 20 μg, inj. midazolam 1 mg and inj. vecuronium 1 mg were given IV. Ondansetron 1 mg was given to reduce postoperative emesis. Throat packing was done after the Boyle's Davis mouth gag was placed.

General anesthesia was maintained with halothane in 50% oxygen. Analgesia was maintained with fentanyl and paracetamol suppository. Intraoperatively blood pressure and heart rate remained at near basal values and the patient was ventilated by positive pressure ventilation. Postoperatively he was extubated when fully awake. He was shifted to post-anesthetic care unit, positioned in tonsillar position and observed. No nausea or vomiting, desaturation or hemodynamic instability was observed. The child was shifted to the ward the next day.

DISCUSSION

Tonsillectomy is not a minor procedure; it involves a shared airway, often in a small child with difficult surgical access, obstructive airway symptoms and a potential for blood aspiration. Mortality associated with tonsillectomy ranges from 1:40,000 to 1:12,000.[4,5] The goals of the anesthesia for tonsillectomy are to put the child to sleep in as smooth a way as possible, provide the surgeon with optimal operating conditions and to provide rapid emergence so that the patient is awake and able to protect the airway.

The presence of inspiratory stridor or prolonged expiration may indicate partial airway obstruction from hypertrophied tonsils or adenoids. Obstruction of the oropharyngeal airway by hypertrophied tonsils leading to apnea during sleep is an important clinical condition referred to as obstructive sleep apnea syndrome. Despite only mild to moderate tonsillar enlargement on physical examination, these patients have upper airway obstruction while awake and a tendency to have apnea during sleep.

In the above scenario, preoperative clinical diagnosis was in dilemma, whether the mass was a nasopharyngeal one or of a tonsilar origin. Moreover, the mass looked very vascular. Diagnostic radiological investigation could not be performed for fear of losing airway in a remote place. The child had a big mass which was blocking $>90\%$ of his oropharyngeal inlet even after maximum mouth opening and had all the features of sleep apnea. We

anticipated difficult airway but had limited options of various advanced airway devices.

An inhaled induction in the presence of significant airway obstruction can be a difficult and lengthy procedure to undertake, but must always be preferred in cases of doubts of losing airway after the use of muscle relaxants. Children usually have reduced or no hypoxic and hypercapnic ventilatory responses and may tolerate hypoxia poorly. They also develop hypercapnia with even small periods of apnoea. Early loss of upper airway muscle tone exacerbates the hazards of inhaled induction further. That's why we undertook full preparations for emergent tracheostomy. Though the anticipated problems were there but luckily the case was managed successfully.

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