

Palatal Perforation After Tonsillectomy

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Citation

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Abstract

Adenotonsillectomy is still the most commonly performed operation. Surgeons should thus be aware of the potential complications associated with this procedure. We report a case of a palatal perforation following tonsillectomy in an adult female with a review of the related literature.

INTRODUCTION

Tonsillectomy is usually taken, as a simple operation but it cannot be over emphasized that any procedure requiring general anaesthesia is not necessarily minor. Utmost care should be taken to prevent complications. Gentleness and good surgical skills are important in preventing the iatrogenic complications. We report a rare case of palatal perforation that followed tonsillectomy.

CASE REPORT

A 35-year-old female presented to the ENT out patient department of Lok Nayak Hospital, New Delhi with the complaint of difficulty in opening her mouth completely for the past one and a half year. The trismus was insidious in onset and gradually progressed to the extent that she could not put even a spoon inside her mouth. She also complained of regurgitation of food in the nose and nasal twang in her voice. The patient had undergone tonsillectomy in a private set up 3 months prior to the beginning of these complaints.

On clinical examination the patient had trismus. She had one finger wide mouth bite. There was no obvious abnormality of the temporomandibular joint or any swelling around the jaw or neck. A perforation of 1 x 2 cm size in the soft palate (Fig 1), with fibrosis of the soft palate and left anterior tonsillar pillar was noted. There was no obvious bulge or growth seen in the oral cavity and oropharynx. Nasal examination, hematological and serological examinations were normal. She was treated with injection lignocaine 2%, triamcilon and hyaluronidase 1ml each, in the left retromolar trigone area biweekly along with physiotherapy to relieve trismus and prevent further fibrosis. This treatment was continued for a period of 6 weeks following which she improved considerably with partial relief in trismus. After

one year the patient has good mouth opening and no odynophagia.

Figure 1

Figure 1: clinical photograph of the patient showing palatal perforation



DISCUSSION

Operations on the adenoids and the tonsils are familiar operations to most Otolaryngologists. It is so commonly done that many of the risks associated with it are often overlooked. Nevertheless, this operation can be associated with a complication rate of 15 out of 1,000 operations. Depending on the time the complications occur, they are divided into perioperative and post-operative. Hemorrhage, mechanical difficulties during intubations causing laryngeal trauma, laryngospasm, and laryngeal edema, respiratory compromise or cardiac arrest, aspiration, malignant hyperthermia and trauma to the teeth, pharyngeal wall or soft palate are among perioperative complications. Hemorrhage, infections, postoperative pain, edema and hematoma of the uvula, pulmonary complications, postoperative scarring of

the soft palate and tonsillar remnants are among the common post operative complications². Postoperative infections following tonsillectomy can range from local cellulitis₃, bronchitis, pneumonia₄, pulmonary edema, septicemia, deep neck abscesses. Local anesthetic injections into the major vessel of the neck may cause hemiplegia, deafness¹, loss of vision₅, anaphylaxis and even death due to cardiac arrest₆.

Careless dissection during adenotonsillectomy can cause extensive damage to the pharyngeal wall. Injury to tonsillar pillars, soft palate, uvula, nerve and vessel injuries have also been reported¹. Most striking injury described is amputation of the anterior portion of the tongue. Velopharyngeal incompetence can occur in patients with unrecognized partial palatal clefts¹. Excessive scarring following surgery produces nasopharyngeal stenosis₇.

Loss of tissue and instruments has been reported following tonsillectomy. These losses have included surgical blades, needles, sponges, and entire tonsils as well as loose or broken teeth. A case of lost tonsillar snare in esophagus has been also reported producing dysphagia and mediastinitis₈. Nasopharyngeal or tonsillar packs have caused infection and airway obstruction as well as pressure effects on regional nerves. Lung abscesses have resulted from atelectasis and the aspiration of loose teeth, blood, and tissue fragments₉. Distant site abscesses seeded by infection include the heart, brain and major viscera. Such infections tend to occur in patients with known cardiac valvular or septal diseases¹.

Several rare complications due to adenotonsillectomy have been reported in literature like refractory torticollis₁₀, necrotizing fasciitis₁₁, pseudoaneurysm of the internal carotid, external carotid and lingual artery₁₂, cervical osteomyelitis³, subcutaneous emphysema₁₃, pneumomediastinum and pneumothorax₁₄, meningitis, brain abscess, and even cavernous sinus thrombosis₁₅, fatal air embolism⁸ and atlantoaxial joint dislocation⁹. Mortality from tonsillectomy is rare. Studies of mortality in the USA have indicated a rate of approximately one death per 16,000 tonsillectomies. In England, mortality rates have changed from 1:2700 to 1:10750. When death occurred, these unfortunate outcomes have been related to bleeding, aspiration, electrolyte imbalance or anesthetic agents₁₆.

In the index case palatal perforation occurred as a result of trauma to the soft palate and the fauces during tonsillectomy leading to severe trismus, as the fibrosis gradually progressed to the area of the retromolar trigone. Boyle Davis

mouth gag during tonsillectomy can lead to dislocation of the temporomandibular joint (TMJ) or pain and trismus₁₇. A statistically significant reduction in inter-incisal distance in the post tonsillectomy patients, caused by fibrous healing of the tonsillar bed or fibrous ankylosis of the TMJ is reported in another study₁₈.

Thus it can be concluded that tonsillectomy should not be considered as a minor operation and all necessary precautions should be taken to prevent complications. Good surgical skills and gentleness are keys to success. Dissection method is recommended as it allows complete and careful removal all the lymphoid tissue. A good headlight and adequate sized mouth gag and tongue blade should be used so as to avoid trauma to lips, teeth, tongue and posterior wall. Incision should be made with a sharp knife (12 No blade) or toothed forceps to preserve the mucosa. Avoid trauma to anterior and posterior pillar. Proper plane of dissection (i.e. loose areolar tissue between capsule of tonsil and the superior constrictor muscle) should be identified and non-traumatic suction tip (Yankuar) is essential minimize trauma to tonsillar bed.

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References

1. Gibb AG. Unusual Complications of tonsil and adenoid removal. *J laryngol Otol* 1969; 83:1159-1174.
2. Papadakis CE et al. Meningitis as a complication of Tonsillectomy - Case Report. *Int J Pediatr Otorhinolaryngol*. 1998; 45: 243-247.
3. Tami TA, Burkus JK, Strom Gordon. Cervical Osteomyelitis-An unusual Complication of Tonsillectomy. *Arch Otolaryngol Head Neck Surg*. 1987; 113: 992-994.
4. Francois M et al. Bacteremia during Tonsillectomy. *Arch Otolaryngol Head Neck Surg*. 1992; 118: 1229-1231.
5. Ellis PP. Visual Loss following Tonsillectomy-Possible association with injection in Tonsillar Fossae. *Arch Otolaryngol*. 1968; 87:436-438.
6. Cummings GO. Mortalities and morbidities following 20,000 tonsil & adenoidectomies. *Laryngoscope*. 1954; 64:617-655.
7. Woolf RM, Broadbent TR. Nasopharyngeal stenosis following tonsillectomy and adenoidectomy. *Plast Reconstr Surg*. 1970; 45:352-355.
8. Markowicz H and Shanon E. An unusual complication following tonsillectomy. *J. Laryngol Otol*. 1959; 73:688-689.
9. Stewart JP, Lumsden RB. Logan Turner's Diseases of the nose, throat and ear, 6th Edition. Baltimore, The Williams and Wilkins Company, 1961.
10. Derkay CS, Kenna MA, Pang D. Refractory Torticollis: Unusual complication of Adenotonsillectomy. *Int J Pediatr Otorhinolaryngol*. 1987; 14:87-93.

11. Feinerman BL et al. Necrotising Fascitis of pharynx following adenotonsillectomy. *Int J Paediatr Otorhinolaryngol.* 1999; 48:1-7.
12. Karas DE, Sawin RS, Sie K CY. Pseudoaneurysm of the external carotid artery after tonsillectomy. *Arch Otolaryngol Head Neck Surg.* 1997; 123:345-347.
13. Jash DK. An unusual complication during adenotonsillectomy. *J Laryngol Otolol* 1973; 87:191-4.
14. Hunt KD et al. Tonsillectomy - an unusual complication. *Anaesthesia.* 1999; 54:814
15. Dutsch ES et al. Tonsillectomy and adenoidectomy-changing indications. *Paediatric Clin N Am* 1996:1319-1338.
16. McRae RG, Weissburg AJ, Chang KW. Iatrogenic hyponatremia: a cause of death following pediatric tonsillectomy. *Int J Pediatr Otorhinolaryngol* 1994; 30: 227-232.
17. Stell. PM. Acute infection of the pharynx and tonsils. *Scott Brown's Otolaryngology, Laryngology*, 5th edn. Butterworth, London. 74-118.
18. Maini S et al. Temporomandibular joint dysfunction following tonsillectomy. *Clin. Otolaryngol.* 2002; 27: 57 60.

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