

A RARE COMPLICATION AFTER TONSILLECTOMY: OROPHARYNGEAL STENOSIS DUE TO SYNECHIA BETWEEN THE ANTERIOR PLICA AND THE BASE OF THE TONGUE

TONSİLLEKTOMİ SONRASI NADİR BİR KOMPLİKASYON:
ANTERIOR PLİKA İLE DİL KÖKÜ ARASINDAKİ SİNEŞİYE BAĞLI
OROFARINGEAL DARLIK
Pediyatrik KBB

Başvuru: 26.10.2021
Kabul: 31.01.2023
Yayın: 01.02.2023

Abdulkadir Şahin¹, Ayhan Kars², Mustafa Sıtkı Gozeler¹

¹ Atatürk Üniversitesi Tıp Fakültesi

² Kastamonu University Faculty of Medicine

Özet

Tonsillektomi tüm kulak burun boğaz kliniklerinde yaygın olarak uygulanan bir işlemdir. Tonsillektomi sonrası çeşitli komplikasyonlar bildirilmektedir. Yaklaşık bir yıl önce elektif tonsillektomi ameliyatı olan dört yaşındaki erkek çocuk, ameliyattan bir süre sonra gelişen ve giderek ilerleyen horlama, yutma güçlüğü ve kilo kaybı nedeniyle ailesi tarafından kliniğimize getirildi. Orofaringeal muayenede dil kökü ile ön plika arasında sineşi oluşumu izlendi. Bipolar koter kullanılarak diseksiyonla sineşi açıldı. Operasyon komplikasyonsuz tamamlandı. Tonsillektomi sırasında dil kökü ile tonsilin alt polü arasındaki derin diseksiyon, anatomik engelleri ortadan kaldırarak dokuları sineşi oluşumuna duyarlı hale getirebilir.

Anahtar kelimeler: Orofaringeal stenoz, Postoperatif komplikasyon Sineşi Tonsillektomi.

Abstract

Tonsillectomy is a procedure widely performed in all ear, nose, and throat clinics. Various complications are reported after tonsillectomy. A four-year-old boy who had undergone elective tonsillectomy approximately one year previously was brought to our clinic by his parents due to snoring, difficulty in swallowing, and weight loss developing at some time after surgery and gradually progressing. Oropharyngeal examination revealed a synechia formation between the base of the tongue and the anterior plica. The synechia was released by dissection using bipolar cautery. The operation was completed with no complications. Deep dissection between the base of the tongue and the tonsillar inferior pole during tonsillectomy may makes tissues susceptible to synechia formation by eliminating anatomical barriers.

Keywords: Oropharyngeal stenosis, Postoperative complication Synechias Tonsillectomy.

Introduction

Tonsillectomy is a procedure widely performed in all ear, nose, and throat (ENT) clinics and representing one-third of all surgeries, usually together with adenoidectomy [1]. Although tonsillectomy is generally regarded as a safe operation, care is still required on the part of ENT physicians, since various complications can develop, most commonly postoperative bleeding and dehydration, particularly in children. Dysphagia seen in the early postoperative period is not regarded as a complication, but as a transient problem emerging after surgery [2,3]. Other very rare complications reported after tonsillectomy include oropharyngeal stenosis (OPS), bilateral glossopharyngeal nerve paralysis, Grisel's syndrome, subcutaneous emphysema, carotid artery pseudoaneurysm, Lemierre's syndrome, and brain abscess. OPS is defined as narrowing of the upper airway in the region of the lateral pharyngeal bands, the soft palate, and the base of the tongue. This stenosis can be seen as a scar narrowing the airway in association with adhesion of the lower tonsillar fossa and the lateral pharyngeal band to the base of the tongue [4].

The development of synechiae containing mobile structures is difficult. Since the tongue is a highly mobile organ, synechiae involving the tongue are very rare. We describe a case of OPS developing due to synechia between the anterior plica and the base of the tongue following tonsillectomy.

Case Report

Written informed consent was obtained from the parents of the patient involved in this case report. A four-year-old boy who had undergone elective tonsillectomy in an external center approximately one year previously was brought to our clinic by his parents due to snoring, difficulty in swallowing, and weight loss developing at some time after surgery and gradually progressing. The parents described no other complications. The operation notes stated that tonsillectomy had been performed using the cold dissection method, with bipolar cautery for hemostasis. The report contained no details that would explain the increased risk of development of stenosis. Oropharyngeal examination revealed a synechia formation between the base of the tongue and the anterior plica (Figure 1).

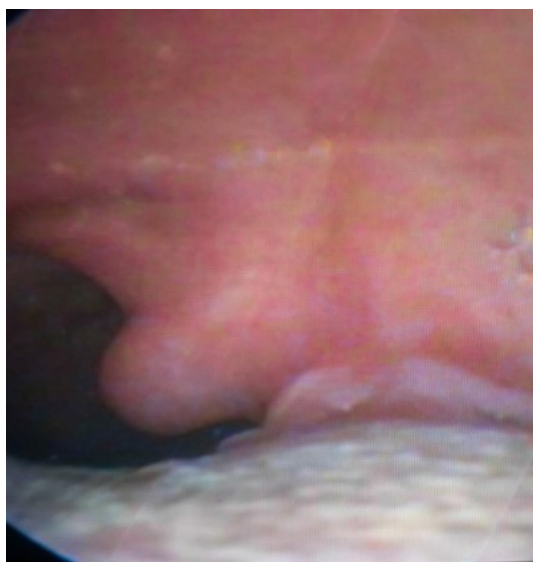


Figure 1
Preoperative endoscopic views

Nasopharyngeal examination using a flexible endoscope was normal, and no adenoid hypertrophy or stenosis were observed. The lesion included the lateral pharyngeal band, the lower tonsillar fossa, and the base of the tongue. OPS was suspected, and the patient was taken for surgery under general anesthesia. A Kilner-Doughty mouth gag and a Dingman tongue depressor were employed. A synechia was observed during surgery in the anatomical region between the left tonsillar anterior plica and the lingual tonsil. The synechia was released by means of dissection using bipolar cautery. The operation was completed with no complications. The patient was invited to attend routine clinic controls on postoperative days 5 and 15 (Figure 2A, 2B). No problem was observed at six-month control examination, and the patient's swallowing difficulty and snoring symptoms had entirely resolved.

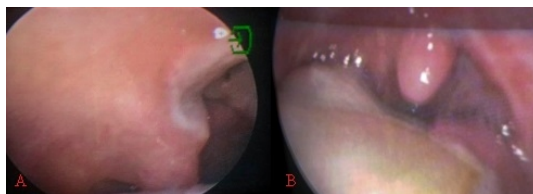


Figure 2

Post-operative endoscopic views. A: Postoperative 5th day. B: Postoperative 15th day.

Discussion

OPS generally appears between two and eight months after surgery. It can assume various forms, from a soft flexible band to a wide cicatrizing mass. Risk factors include deep dissection of the inferior tonsillar pole and the lingual tonsil and excessive cautery use [5]. However, our scan of the literature revealed no evidence that lingual tonsillectomy alone, tongue base reduction, and uvulopalatopharyngoplasty may result in OPS [6]. The few cases of OPS in the literature have generally been reported in children, and this is thought to be related to young age and a narrow airway [5]. In addition, commonly used surgical equipment is sometimes not sufficiently adapted to the small and narrow anatomy of pediatric patients and can cause mucosal damage in the surrounding tissues.

We think that synechia in this case commenced in association with removal of the inferior tonsillar pole together with the deep and lingual tonsil [4]. The synechia then progressed along the mucosa of the pharyngeal arch as far as the base of the uvula, where it terminated. Medical agents such as triamcinolone, flaps, and tissue expanders have been reported to be capable of use for preventing synechia recurrence, and in the present case we decided to open the stenosis by removing the fibrotic synechia tissue with subsequent follow-up [7-9]. Surgeons should be aware of the possibility of OPS, a very rare complication of tonsillectomy, a procedure frequently performed by ENT physicians. Excessive cauterization should be avoided during surgery, and tissue must be treated with respect. Care over and preservation of mucosal nerve lines and particularly dissection following the tonsillar capsule are of great importance.

In conclusion, deep dissection between the base of the tongue and the inferior tonsillar pole during tonsillectomy makes tissues susceptible to synechia formation by eliminating anatomical barriers. Care must be taken over anatomical margins and residual tissues throughout surgery. Excessive cauterization and resection should also be avoided.

Acknowledgement

We want to thank to Mr. Carl Austin Nino Rossini for his precious contribution.

References

1. Leong SCL, et al. Unusual complications of tonsillectomy: a systematic review. *Am J Otolaryngol.* 2007; 28(6): 419-22.
2. Randall DA, Hoffer ME. Complications of tonsillectomy and adenoidectomy. *Otolaryngol Head Neck Surg.* 1998; 118(1): 61-8.
3. Garnett JD, Ramadan HH. Swallowing dysfunction after tonsillectomy. *Otolaryngol Head Neck Surg.* 1996; 114(6): 813-7.
4. Prager JD, et al. Oropharyngeal stenosis: a complication of multilevel, single-stage upper airway surgery in children. *Arch Otolaryngol Head Neck Surg.* 2010; 136(11): 1111-5.

5. Cicek MT, Croo A, Kizilay A. Posterior plica synechia: rare complication of adenotonsillectomy. J Craniofac Surg. 2012; 23(4): 1213-4.
6. Muderris T, et al. Oropharyngeal stenosis after transoral robotic lingual tonsillectomy. J Craniofac Surg. 2015; 26(3): 853-5.
7. Santos VB, Ruffy ML, Polisar IA. Stenosis of the oropharynx treated with intralesional triamcinolone. Ear Nose Throat J. 1977; 56(4): 164-7.
8. McLaughlin KE, et al. Management of nasopharyngeal and oropharyngeal stenosis in children. The Laryngoscope. 1997; 107(10): 1322-31.
9. Banerjee D, Wang JC, Demke JC. Novel use of tissue expander for dilation of oropharyngeal stenosis. Int J Pediatr Otorhinolaryngol. 2014; 78(11): 2018-20.

Presented at

This case was presented as a poster at the 12th International Congress of Otorhinolaryngology and Head and Neck Surgery April 7-9, 2016 Ankara-Turkey.