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Case Series

Adult epiglottic laryngomalacia and its surgical management

Priyanka Schilling Amar*, Susan K. Sebastian

Department of Otorhinolaryngology, St. Stephen's Hospital, New Delhi, India

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***Correspondence:**
Dr. Priyanka Schilling Amar,
E-mail: priyankaschilling@gmail.com

ABSTRACT

Floppy and elongated epiglottis in adults causing airway obstruction is a rare clinical condition which needs immediate surgical intervention. We present a case series of six patients who presented in the outpatient department with floppy epiglottis based on the history and clinical examination and laryngoscopic findings which were managed by endoscopic partial epiglottectomy using diathermy. Surgical outcomes were assessed on outpatient follow up for next six months which showed improvement in the quality of life. Hence, this novel technique of diathermy improved the symptoms in adult epiglottic laryngomalacia.

Keywords: Adult epiglottic Laryngomalacia, Diathermy, Endoscopic partial epiglottectomy, Diathermy, Floppy epiglottis, Flexible laryngoscopy

INTRODUCTION

The word laryngomalacia is coined from Greek word "Malakia" which means morbid softening of part of an organ.[1] Laryngomalacia is the most common congenital laryngeal anomaly which is self-limiting.[2] Adult epiglottic laryngomalacia is a rare condition in which a collapsed/malformed epiglottis leads to airway obstruction. It can be congenital or acquired. The main pathophysiology causing acquired laryngomalacia is due to the flaccidity of supraglottic airway.[3] These patients usually present with foreign body sensation, snoring, occasional difficulty in breathing and occasional swallowing problems. Surgical intervention is the mainstay of treatment in such cases with floppy epiglottis who present with the above complaints after completely evaluating such cases using soft tissue neck X rays (lateral view) and flexible direct laryngoscopy.

CASE SERIES

A total of six patients were included who presented in the outpatient department over a period of two years i.e. April 2019 to June 2021 of age 13 years and above were identified on the basis-clinical history, ENT examination and flexible direct laryngoscopy findings.

Figure 1: Floppy elongated epiglottis touching the posterior pharyngeal wall detected during flexible direct laryngoscopy in the outpatient department.

Figure 2: Preoperative laryngoscopy of floppy epiglottis touching the posterior pharyngeal wall and obscuring the laryngeal inlet.

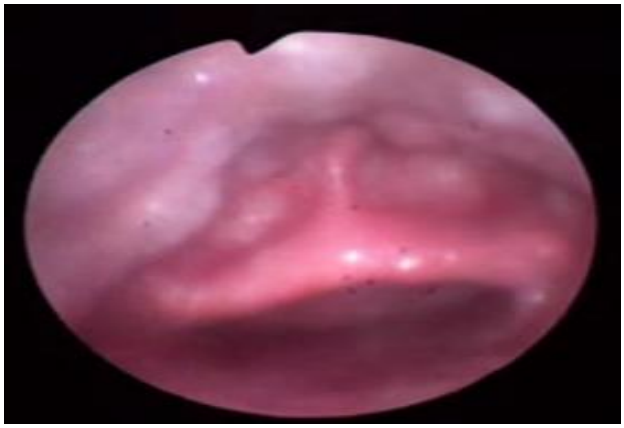

Figure 3: Post op laryngoscopy of post op endoscopic epiglottoplasty status with improved upper airway during post op follow up after three months.

Table 1: Clinical characteristics of patients with floppy epiglottis with surgical outcomes.

Age (in years)	Gender	Clinical history	Laryngoscopy findings	Surgery	Clinical outcomes
32	Female	Foreign body sensation discomfort on lying down-4 months	Epiglottic prolapse on the posterior pharyngeal wall during inspiration	Endoscopic epiglottectomy using diathermy	Improved
25	Male	Intermittent choking sensation, discomfort while swallowing-2 months	90% collapse of epiglottis, touching the posterior pharyngeal wall and lateral wall	Endoscopic epiglottectomy using diathermy	Improved
23	Male	Foreign body sensation Mild throat pain -8 months	Floppy epiglottic touching the posterior pharyngeal wall	Endoscopic Epiglottectomy using diathermy	Improved
80	Male	Disturbed sleep with intermittent episodes of difficulty in breathing on lying down- 2 months	Floppy Epiglottis Rest of the Larynx-Normal	Endoscopic Epiglottectomy using diathermy	Improved
32	Male	Foreign body sensation Intermittent breathing difficulty -2 months	Floppy, curled epiglottis touching the posterior pharyngeal wall	Endoscopic Epiglottectomy using diathermy	Improved

Table 1 shows complete clinical findings and surgical procedure done on patients with surgical outcomes.

DISCUSSION

We found that the main etiology among all the cases was idiopathic with no other etiological factor could be found. Most common laryngoscopic findings showed prolapsed floppy epiglottis touching posterior pharyngeal wall. Most of the patients in our study were males and post operative course of all patients were uneventful.

Endoscopic partial epiglottectomy using either coblation or diathermy is a very precise and effective procedure which can be performed among symptomatic patients. In our study, diathermy assisted endoscopic partial epiglottectomy was done on all six cases. Using laryngeal micro instruments, tip of epiglottis was cauterized in the midline using bipolar cautery and cut made in the midline using monopolar scissors. After cauterizing lingual surface of epiglottis, suprahyoid part of epiglottis in the upper 1/3rd (0.5 cm) was cut and rim removed (Figure 1 and 2). Recent studies, however, have shown that epiglottis surgery plays an important role, either on its own/in combination with other sleep apnea surgeries.[4,5]

Postoperatively, most of the patients complained of pain and dysphagia in the immediate post operative period which was managed with intravenous analgesics, antibiotics and small tapering dose of steroid for a short period.

Initially liquid diet followed by semisolid diet was given to the patients in the post operative period. Patients were discharged over a period of five days in a stable condition and followed up on outpatient basis over a period of six months. However, three out of six patients continued to have persistent foreign body sensation.

According to literature, there are multiple choices for epiglottic surgery including total, partial, and V-shaped epiglottidectomy, and hyoepiglottoplasty using endoscopy or transoral robotic surgery techniques.[6,7] Endoscopic partial epiglottectomy using either coblation or diathermy is a very simple, safe and effective procedure which can be performed among symptomatic patients in hospitals without laser facilities. In our study, using this safe technique patients had symptomatic relief with good surgical outcome.

CONCLUSION

Early recognition of epiglottic prolapse as a cause of airway obstruction may prevent unnecessary long term tracheostomy dependency and repeated surgery. Adult laryngomalacia involving floppy and elongated epiglottis is a rare condition, responds well to surgical management. Endoscopic partial epiglottectomy is a safe and effective procedure. Hence, we recommend this procedure which gives improved surgical outcomes.

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