

## Sudden airway obstruction secondary to bilateral vocal cords polyps

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### ABSTRACT

Vocal polyps are benign laryngeal lesions which arise from the Reinke's space. Hoarseness is the most common presentation but airway compromised might occur in the presence of big polyps. We hereby report a case of big bilateral vocal polyps in which a tracheostomy under local anesthesia was required prior to endomicro-laryngeal surgery.

**KEY WORDS:** Vocal polyps, Airway compromised, Tracheostomy.

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### INTRODUCTION

Vocal cord polyp, unilateral or bilateral, is a common benign laryngeal lesion. Polyps can appear along the membranous vocal fold, usually the anterior part of the vocal folds. Hoarseness may be the only complaint from the patient when the lesion is small but big vocal polyps will lead to severe airway obstruction and even fatality.

### CASE REPORT

A 63-year-old elderly lady presented to casualty with history of shortness of breath for one week with increased severity within three days prior to presentation. She could not lie down and noisy breathing

was noted by family members. However, no cyanosis was detected. She also complained of odynophagia and dysphagia with progressively intolerance of solid followed by liquid food.

She was a chronic smoker for more than 30 years. She didn't have coughing, haemoptysis, fever nor chest discomfort. Premorbidly, she was a diagnosed case of diabetes mellitus on oral hyperglycemic agent. Otherwise she was well till this admission. On examination, she was mildly tachypneic. A biphasic inspiratory stridor was noted with suprasternal recession. The cervical lymph nodes were not palpable. A direct laryngoscopic examination revealed polypoidal mass occupying bilateral two thirds of the vocal cords. The polypoidal mass were pedunculated and flopping with respiration, almost blocking the whole airway except the posterior 1/3. No fungating or ulceration seen at the surface (Figure-1). The epiglottis, vallecular, base of tongue, piriform fossa and post-cricoid region were normal. Computed tomography showed bilateral vocal cords polyps. There was no calcification, regional bony or cartilage erosion. The anterior commissure was thickened. This lesion caused narrowing of its adjacent airway with its narrowest part measuring 0.4cm at the cricoid cartilage level (Figure-2).

In view of the huge vocal polyps which almost obstructed the airway, difficult intubation was anticipated and a tracheostomy under local anaesthesia was performed. An endomicro-laryngeal surgery

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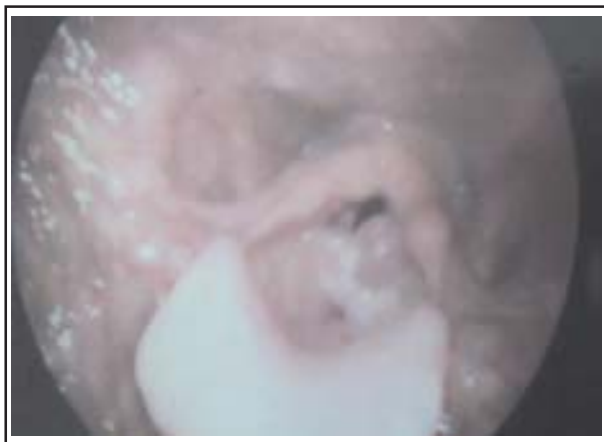


Figure-1: Bilateral vocal cords polyps were seen during direct laryngoscopic examination.

was performed to remove both vocal cords polyps. Post surgery one week, laryngoscopy revealed no residual vocal polyp and airway was adequate. The histopathological examination revealed inflammatory polyp. The vocal cords were mobile and approximating well, therefore decannulation of tracheostomy was done. The patient was followed up for two weeks and noted there was mild hoarseness but no difficulty breathing. On examination of the larynx, there was small polyp at the anterior 1/3 of the right vocal cord with an adequate airway (Figure-3). She was offered another surgical intervention which she refused.

### DISCUSSION

Vocal cords polyps are the commonest benign laryngeal lesions that arise from the true vocal cords.<sup>1</sup>



Figure-3: Endoscopic laryngeal examination showed small polyp at the anterior part of the right vocal cord at 2 weeks follow-up.

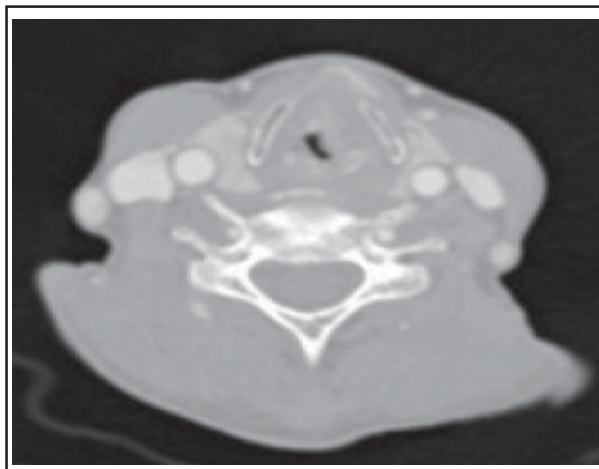


Figure-2: CT scan showed bilateral vocal cords polyps.

Most of the reports revealed vocal cords polyps has the preponderance in male, however some studies showed the vice versa result.<sup>2</sup> It happens in adult in all ages especially from age second to sixth decades. The etiologies are mainly attributed to smoking, voice abuse, allergy, gastroesophageal reflux and chronic infection. The incidence increases in those occupations which required excessive usage of voice.

Sometimes there is some confusion between vocal polyp and Reinke's edema as both lesions origin from the Reinke's space. A term of "exudative lesions of Reinke's space" is advocated by Hantzakos A et al<sup>3</sup> which comprise Reinke's edema, polyps and nodules into the same entity based on their similar histological findings.

Clinically, polyp usually presents as an exophytic or pedunculated lesion with thin mucosa. It can occur along the membranous part of the vocal cord but predominantly located at the anterior third of the vocal cord. As for Reinke's edema, it occurs by accumulation of fluid of variable viscosity, commonly effects bilateral vocal cords and vibration could be observed during phonation.<sup>4</sup>

Depending on the size and site of the polyps, the symptoms presented could be dysphonia, foreign body sensation, odynophagia, dysphagia, wheezing, stridor and even upper airway obstruction. Most of the cases are reported to be unilateral polyp while 10% appear to be bilateral or multiple unilateral.<sup>5</sup> Even though life threatening complication rarely occur in these lesions, there were cases of airway compromise and even death reported due to large vocal cord polyp.<sup>6,7</sup> When the polyps appear at the underside of the true vocal cord, the hanging lesions would flop and follow the rhythm of respiration.

Hence, there is a tendency of airway obstruction and laryngospasm if there are any bouts of coughing, vomiting or any manipulation at the laryngeal inlet.<sup>8</sup>

There were reports in which angiomatous polyp and small vocal polyps regressed without any surgical intervention.<sup>2,5</sup> These authors thus suggested lesions which fall under the category should be handled more cautiously. But surgical intervention is mandatory in cases which cause airways obstruction and for the professionals which involve intense voice usage.

In the treatment of vocal polyps, microlaryngeal surgery under general anesthesia is the definitive management. However, in the presence of huge polyps, the remaining small airway complicated the process of intubation. There was limitation to obtain a clear vision of vocal cords and hence multiples attempts of intubation might be warranted. These would cause further injuries to the mucosa and even arytenoid dislocation. Secondly, the risk of laryngospasm during the manipulation of intubation should not be overlooked as it carries certain morbidity and mortality. Thirdly, the possibility of lesion dislodge may occur during insertion of endotracheal tube due to the limited space. Therefore, tracheostomy under local anesthesia appears to be a prudent choice in this case.

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