



การอุดกั้นทางเดินหายใจส่วนบนจากภาวะเลือดออก ในริดสีดวงขนาดใหญ่ของสายเสียง

จรินทร์น์ ศิริรัตนพันธ์¹ สุประพล จันทะพันธ์¹ สุรียา ผ่องสวัสดิ์²

¹ภาควิชาโสต ศอ นาสิก ลาริงซ์วิทยา คณะแพทยศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ

²ภาควิชาพยาธิวิทยา คณะแพทยศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ

บทคัดย่อ

เนื้องอกของเส้นเสียงประเภทตุ่มที่สายเสียงหรือริดสีดวงที่สายเสียง พบว่าส่วนมากเป็นเนื้องอกชนิดดีพบได้บ่อยในคลินิกโสต ศอ นาสิก ลาริงซ์ ผู้ป่วยมักมาพบแพทย์ด้วยเรื่องเสียงแหบ ไม่มีเสียง คุณภาพของน้ำเสียงเปลี่ยนไป พยาธิสภาพพบลักษณะเป็นก้อนที่เยื่อบุผิวของเส้นเสียง บางครั้งพบที่ด้านบนหรือด้านล่างของเส้นเสียงซึ่งมักจะเป็นก้อนนุ่มที่ยื่นออกมาจากชั้น Reinke หรือใต้เยื่อบุผิวบวมมีเลือดออก สาเหตุเหล่านี้นำมาซึ่งการเกิดพังผืด และเกิดผนังด้านในหนา (hyalinization) ผู้ป่วยรายนี้มาพบแพทย์ที่ห้องฉุกเฉินด้วยเรื่องทางเดินหายใจส่วนบนอุดกั้นจากก้อนริดสีดวงขนาดใหญ่ที่มีเลือดออกภายใน เป็นรายงานที่ทำการศึกษาย้อนหลังในผู้ป่วยเพศชาย อายุ 48 ปี มาด้วยเรื่องหายใจตื่น หอบเหนื่อย มีเสียงดังทั้งหายใจเข้าและหายใจออก และตามมาด้วยเรื่องทางเดินหายใจอุดกั้น จนแพทย์ต้องช่วยโดยการเจาะคอเพื่อเปิดทางเดินหายใจ (tracheostomy) โดยการฉีดยาชาเฉพาะที่ การส่องกล้องที่กล่องเสียงโดยใช้สายส่องกล้องแบบนิ่ม พบก้อนเนื้องอกมีเสมหะสีเหลือง ก่อนเป็นลักษณะมีก้านยื่นมาจากทางด้านหน้าของเส้นเสียงด้านขวา ผู้ป่วยได้รับการผ่าตัดโดยการส่องกล้องและตัดชิ้นเนื้อเพื่อส่งตรวจทางพยาธิวิทยา ผลพยาธิวิทยา สอดคล้องกับก้อนริดสีดวงเส้นเสียงประเภทที่มีเลือดออก

คำสำคัญ: vocal polyps, pedunculated vocal polyps, hemorrhagic vocal polyps, stridor, airway compromise, tracheostomy

ผู้รับผิดชอบหลัก:

จรินทร์น์ ศิริรัตนพันธ์

ภาควิชาโสต ศอ นาสิก ลาริงซ์วิทยา

คณะแพทยศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ

62 หมู่ 7 ถนนรังสิต-นครนายก ตำบลองครักษ์ อำเภองครักษ์ จังหวัดนครนายก 26120

อีเมล: jeed9000@yahoo.ac.th

A rare upper airway obstruction by large hemorrhagic vocal polyps

Jarinratn Sirirattanapan¹, Suprapol Chantapan¹, Suriya Pongsawat²

¹Department of Otolaryngology, Faculty of Medicine, Srinakharinwirot University

²Department of Pathology, Faculty of Medicine, Srinakharinwirot University

Abstract

Vocal polyps are benign neoplastic lesions which common found in otolaryngology clinic. Mostly presented with hoarseness, dysphonia, the quality of voice changed. The pathologic lesions involve the free edge of vocal fold mucosa, may be found the superior or inferior border, arose from the Reinke's space, submucosal edema and hemorrhage, leading to fibrosis and hyalinization. Here, we presented an emergency upper airway obstruction by large hemorrhagic laryngeal polyps. A retrospective case report in a Thai male 48 years old presented with shortness of breathing, biphasic inspiratory stridor and continued airway compromised. He was rescued by tracheostomy under local anesthesia. Laryngoscopic examination revealed a globular, yellowish white, pedunculated vocal mass which arose from anterior commissure region of right vocal cord. Micro laryngeal excision was done. Pathological finding reported compatible with hemorrhagic vocal polyps.

Keywords: vocal polyps, pedunculated vocal polyps, hemorrhagic vocal polyps, stridor, airway compromise, tracheostomy.

Corresponding author:

Jarinratn Sirirattanapan

Department of Otolaryngology,

Faculty of Medicine, Srinakharinwirot University

62 Moo 7, Rangsit-Nakornnayok Road, Ongkharak, Nakhonnayok, 26120

E-mail: jeed9000@yahoo.ac.th

■ Introduction

In general vocal polyps are benign laryngeal lesion which cause hoarseness and dysphonia. Hoarseness is laryngeal dysfunction caused by abnormal vocal cord vibration¹. Bernoulli's principle explains that when air passes from one large diameter to another small diameter e.g. from lungs to pharynx, a vibratory pattern is developed at the vocal cords and the resultant sound produced is appreciated as voice². Vocal polyps were presented with several forms such as a small polyp, large polyp, swelling blister-like or bump like a nodule, a stalk-like growth, pedunculated, sessile, unilateral or bilateral lesion³. Vocal nodules and polyps cause improper closure glottis during phonation leading to change in a quality of voice especially professional voice during speaking or singing. Anyway, etiology of vocal polyps formation is not only from long-term vocal abuse, but also occurs after singing, traumatic event to the vocal cords, such as yelling at a concert, shouting in occupation, long-term cigarette smoking, allergy, hypothyroidism, and gastroesophageal reflux disease (GERD)⁴. There is confusion between vocal nodules, vocal polyps and Reinke's space edema because these lesions originate from the Reinke's space⁵⁻⁸. Reinke's space edema, vocal polyps and vocal nodule may be treated medically, surgically, and/or behavioral intervention or voice therapy or vocal hygiene such as reducing vocal abuse, alter pitch sound, loudness and stress reduction⁹. Surgical intervention involves removing the nodule or polyp from the vocal cord. This approach have to be done when the nodules or polyps are very large and they have existed for a long time or suspected carcinoma. Surgery is rarely needed in children. Most patients with vocal polyps are observed in adult, but those with vocal nodule

are found in teenagers. Reinke's space edema was presented in all age groups with voice change history after misused. Clinically, hoarseness from a small polyp only disturbs quality of voice in contrast to a large vocal polyp that will obstruct airway leading to increase mortality.

■ Case Report

A Thai 48-year-old male was conducted in emergency department of HRH Princess Maha Chakri Sirindhorn Medical Center, Thailand. He presented with acute upper airway obstruction. He was rescued by an emergency tracheostomy under local anesthesia. Five years ago, he came to the Out-Patients Department (OPD) complained with changing in voice and dry cough of one month duration. He had no signs and symptoms of throat pain, dysphagia, post-nasal drips or any respiratory difficulty. The ear and nose examinations were normal. Flexible laryngoscopy examination revealed a single vocal mass located at middle part of the right vocal cord. Its size is approximate 0.5 centimeters, swollen blister mass, smooth surface polypoid change, yellowish color, small telangiectasia, and pedunculated mass. He did not know the underlying disease. He was a sale man in fresh market, used loud voice everyday and heavy smoking, one pack a day. Physician has suggested him to have further investigation by microlaryngoscopy and excision operation. He was lost to follow-up for 5 years and revisited with an acute airway compromised. After he used loud voice at work place, 2 hours later he felt chest discomfort, shortness of breath, no hemoptysis. In emergency room, he has signed of upper airway compromised during deep breathing and biphasic inspiratory stridor. He could not lie down and saturated oxygen was decreased.

Bilateral lymph nodes of neck could not be palpated. He was rescued by tracheostomy under local anesthesia. Under video laryngoscopic examinations, it was found a globular, a dull-red color pedunculated mass, 1.5 cm. in diameter, yellowish white discharge on top of mass but no ulceration. Vocal mass arose from posterior part of right vocal cord to anterior commissure area. Vocal mass is movable during voices production, but did not move at rest. Both sides of vocal cords were moving normally resulting in vocal gap. Then vocal cord was blowing at the posterior part because of 3 mm. of vocal gap. The epiglottis, vallecular, piriform, arytenoid, post-cricoid, base of tongue, larynx and hypopharynx were normal. The patient was underwent microlaryngoscopic operation with excision and biopsy under general anesthesia. During operation, we found a hard and greyish white mass with slight dull-red color. Mass was excised from right vocal cord at the anterior commissure close to posterior part of right vocal cord by using micro laryngeal scissors. Bleeding was stopped by cotton pledged with 3% pseudoephedrine; mucosal of vocal cord was taken to maintain the mucosal integrity. Post-operative tissue was sent for a histopathological examination. Patient was treated with voice rest, antibiotic, proton-pump inhibitor and analgesic drugs. Post-operation followed up, he recovered his voice without rest. The pathological diagnosis showed compatible with hemorrhagic vocal polyp fibrin thrombi.

■ Discussion

Vocal cords polyps are common cases in otolaryngology. Mostly vocal cord polyps were presented with hoarseness and dysphonia. Rare cases presented an upper airway obstruction with uni-

lateral vocal polyp. Vocal polyps were prominent in male related with vocal abuse and unfavorable microclimate at work. Wong Chung Yiing has reported an elderly woman presented with sudden airway obstruction by bilateral pedunculated and flopping vocal cords polyps at 2/3 part of vocal cords. She was performed tracheostomy under local anesthesia as well. She had history with chronic smoking for more than 30 years¹⁰.

Chopra et al. studied a kind of benign laryngeal lesion. The lesions were categorized by clinical correlation, micro-laryngoscopic and histological features, as well as evaluation of the age, incidence, and occupational factors. They also described micro laryngeal surgery and speech therapy was effective management to those lesions¹¹.

Dickers et al. studied the histological alterations of the three laryngeal lesions, benign lesion of vocal folds have various appearances and histopathological diagnosis. Vocal polyps were predominance of fibrin deposits on the lamina propria, signs of hemorrhage, increase in a number of vessels, iron deposit and vascular thrombosis; in Reinke's edema, basal membrane thickening, edematous lakes, extravascular erythrocytes, vessel wall thickening predominate; in the nodules, the most prevalent alterations were basal membrane thickening, no hemorrhage and no edematous lakes¹².

In general vocal polyps are benign laryngeal lesion¹³. Vocal polyps were presented with several forms such as a small polyp, large polyp, swelling blister-like or bump like a nodule, a stalk-like growth, pedunculated, sessile, unilateral or bilateral lesion¹⁴. Most patients with vocal polyps usually have history with vocal abuse, chronic smoking, chronic cough, allergy, GERD¹⁵⁻¹⁸

and chronic infection. Vocal polyps are presented in adult patients in all ages especially from second to sixth decade¹⁰.

The incidence of vocal polyp in male and female adults is approximately equal; polyps occur occasionally in children. Contact ulcers are found much more often in men than in women, and they are rarely found in children¹⁹. Vocal polyps are larger than nodules. Most vocal nodules often present in bilateral and anterior one-third of bilateral vocal cords. However, vocal polyps present frequently as an exophytic mass, pedunculated or sessile lesion with thin mucosa wall, unilateral and locate at middle to posterior²⁰. Clinically, patients with polyps mostly presented with vocal mass, rough voice, harshness, decrease pitch range, raspy voice²¹, scratchy voice, chronic cough, lump in the throat, shooting pain from ear to ear. The upper airway obstruction is rare. Wong CY et al had reported one sudden airway obstruction by bilateral vocal cords polyps. This patient had also performed tracheostomy under local anesthesia¹⁰.

Here, we present a rare case, vocal polyp with an emergency upper airway obstruction. He had chronic hoarseness by voice abuse, chronic cough, heavy smoking more than 20 years. By history, after he shouted loudly, 2 hours later he felt tired and tracheostomy was performed consequently to maintain airway. Firstly, the differential diagnosis for vocal mass with acute upper airway obstruction in this case may be possible to be hemangioma, hemorrhage vocal mass, or vocal carcinoma. Finally, histopathological examination revealed several fragments of recent hemorrhage with fibrin thrombi formation. Fragments of benign stratified squamous mucosa with underlying moderate

edematous stroma are also observed. These findings are compatible with hemorrhagic vocal polyps. Hence, mass was gradually expanded its size until airway was obstruct leading to tracheostomy operation. In case of acute upper airway obstruction, tracheostomy was a treatment of choice due to narrow airway with difficult intubation and possible to induce laryngeal spasm. Tracheostomy is not only used to maintain airway, but also avoid laryngeal mucosa trauma and preserve the professional voice usage. The definitive treatment, we underwent microlaryngeal surgery under general anesthesia. Patients have been treated with proton pump inhibitor for prevention laryngeal trauma from gastroesophageal reflux after operation. Follow up for one month, flexible laryngoscopy finding shown vocal cords function were normal, surgical wound was satisfied and no sign of recurrent vocal polyps. Patient was sent to vocal rehabilitation and short course of prophylactic anti-gastroesophageal reflux drug for prevention recurrent vocal lesions.

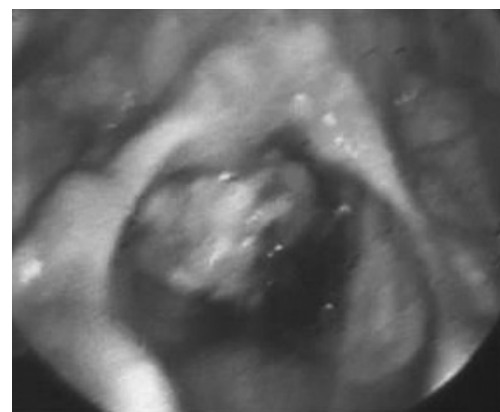


Figure 1. Capture from video flexible laryngoscopy, A large vocal mass, yellowish debris on top dull- redness mass cause of upper airway obstruction.

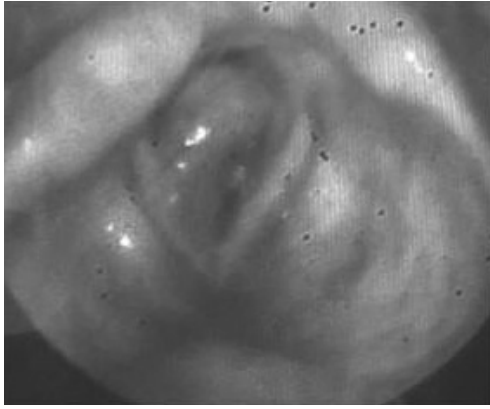


Figure 2. Capture from video micro directed laryngoscopy, A large vocal mass size around 1.5 cm. pedunculated and flopping vocal cords polyps dull redness color, nearly total airway obstruction.



Figure 4. The microscopic sections show benign stratified squamous mucosa with underlying edematous stroma compatible with vocal polyp. The underlying stroma also shows massive stromal hemorrhage. (H&E stain, 10x)

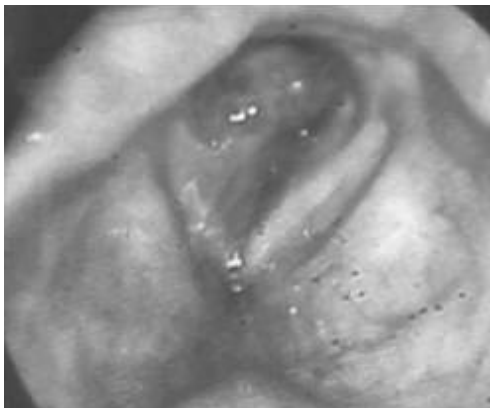


Figure 3. Capture from video micro directed laryngoscopy, the picture shown a sessile origin from submucosa of right vocal cord, mass arose from 2/3 posterior through anterior commissure part of right vocal cord.

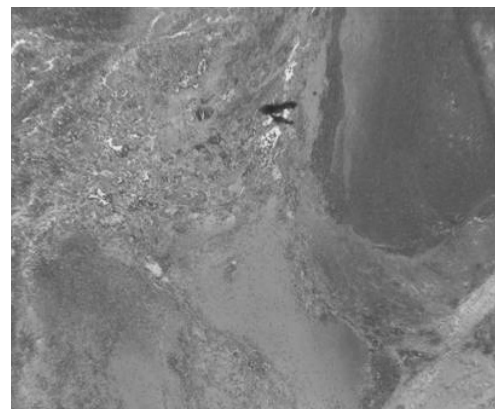


Figure 5. The area of massive stromal hemorrhage with fibrin thrombi formation. (H&E stain, 10x)

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