

## Recurrent Vocal Cord Granulomas in a Twelve-Year-Old Child

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**Vocal cord granulomas or contact granulomas are benign masses of the vocal fold. They are relatively uncommon. The etiology is usually multifactorial which makes it difficult to treat.**

**The pathogenesis of this condition is still undetermined but can be attributed to three etiological factors: vocal abuse, laryngopharyngeal reflux disease, and laryngeal intubation. Recurrence is high due to the fact that most of the underlying causes are persistent.**

**We report a case recurrent granuloma exacerbated by excision which contributed to its recurrence. Between 2012 to 2017, the patient had multiple microbroncholarngoscopy (MLB) for excision of the granulomas (twice per year). Co2 laser was used in some of the procedures. The patient was kept under observation with regular follow-up visits and endoscopies. In May 2018, the patient was symptom free and flexible nasal endoscopy showed normal bilateral vocal cords with disappearance of the granulomas.**

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The contact granuloma is usually located on the posterior third of the vocal fold and it is a benign lesion. They may occur unilaterally or bilaterally and usually recur.

Granuloma could be specific caused by tuberculosis or syphilis and non-specific granulomas which accounts for the majority. Causes include vocal abuse, laryngopharyngeal reflux, laryngeal intubation, or idiopathic<sup>1</sup>.

The etiology could be perichondritis of the arytenoid cartilage, infection, allergy, and psychosomatic disorders.

Histologically, vocal cord granuloma consists of chronic inflammatory infiltration with neovascularization and fibrosis covered by squamous epithelium.

The aim of this report is to present a case of a 12-year-old male with recurrent vocal cord granuloma which required multiple excisions.

### THE CASE

A twelve-year-old male presented with history of dysphonia, hoarseness of voice for two months, no dyspnea or breathing issues. The patient had history of voice abuse. Initially,

endoscopy of the vocal cords showed granulomatous lesions involving one side of the vocal cords. Patient was kept on anti-reflux medications and was referred for voice therapy.

Between 2012 to 2014, the patient had multiple microbroncholarngoscopy (MLB) for excision of the granulomas (twice per year). Co2 laser was used in some of the procedures.

Histopathology of excised specimen revealed inflammatory polyps with ulcerated chronic granulation tissue reaction. None of the polyps showed evidence of human papilloma virus infection.

In March 2015, symptoms recurred and endoscopy revealed multiple granulomas involving both vocal cords, see figure 1 (A-B).

In November 2016, the nodules were involving right and left true vocal cords, right and left false vocal cords, and the epiglottis.

In March 2017, 3 nodules were excised. Histopathology showed the same previous results with no evidence of malignancy or atypia.

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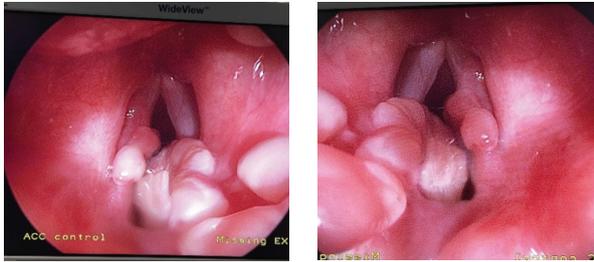


Figure 1 (A)

Figure 1 (B)

**Figure 1: Endoscopic View of Both Vocal Cords, Granuloma Involving the Vocal Cords Bilaterally**

The patient was diagnosed to have recurrent vocal granuloma. Three months post MLB, the patient was doing well with mild hoarseness of voice but no dyspnea or breathing difficulties. Flexible nasal endoscopy showed bilateral mobile vocal cords with 2 small granulomas which may require another excision, see figure 2.



**Figure 2: Small Residual Granulomas on Both Vocal Cords**

The patient was kept under observation with regular follow-up visits and endoscopies. In May 2018, the patient was symptom free and flexible nasal endoscopy showed normal bilateral vocal cords and disappearance of the granulomas, see figure 3.



**Figure 3: Normal Vocal Cords**

## DISCUSSION

A study compared different modalities of treatment and revealed long-term outcomes; a good response was achieved with voice therapy, PPI, and botulinum toxin compared to simple observation. The recurrence rate after surgical removal was higher compared to a simple observation<sup>2,3</sup>.

Another study revealed that voice therapy resulted in disappearance of the granuloma in 9 patients, size reduction in 4 and unchanged in one<sup>4</sup>.

Many studies concluded that voice therapy or proton pump inhibitor (PPI) are recommended as first-line treatments.

## CONCLUSION

**Our case demonstrates the recurrence rate after surgical removal; therefore, it should be reserved for failure of conservative treatment. For refractory cases with expected high response rate, Botulinum toxin injection can be used.**

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