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Candida laryngitis appearing as carcinoma

Abstract

Background: Focal laryngeal candidiasis is not reported widely and is very infrequently recognized clinically. This disease is rare and may occur after pulmonary, pharyngeal and esophageal candidiasis or as part of disseminated disease. It is also secondary to inhaled steroid therapy which is usually mild and has been reported in 10-15 percent of patients taking these medications.

Case Presentation: In this study, we introduced a rare case of laryngeal candidiasis in a 79-year-old immunocompromised male presented with 17 months of progressive hoarseness. In video laryngoscopy a white, vegetative mass on anterior one-third of right vocal cord mimicking laryngeal carcinoma. The histopathological examination showed laryngeal mucosal with keratosis, degenerating necrotic epithelial cell aggregates containing hyphae and candida albicans.

Conclusion: In immunocompromised patients, the diagnosis of laryngeal candidiasis should be considered in any patients with laryngeal symptoms

Keywords: Laryngeal Candidiasis, Hoarseness

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Respiratory fungal infections should be considered in immunocompromised patients who have received either long-term steroid treatment, broad-spectrum antimicrobial therapy or have a non-resolving underlying chronic disease. In other words, respiratory fungal infections are relatively prevalent conditions (1-3). However, laryngeal fungal infections can be presented in various diseases such as gastroesophageal reflux disease, granulomatous disease, leukoplakia and carcinoma (4-8) which mislead the treating team to get correct diagnosis and management. Therefore, identifying the lesion at the earliest stage of disease is very important to avoid morbid or life-threatening consequences (6). *Candida albicans* is an organism that normally makes a quiet home for itself on host's skin and does not bother anyone. We all carry this organism on our skin, in our mouth, in our gastrointestinal tract and in the case of women, in the vagina. Occasionally the yeast multiplies uncontrollably causing pain and inflammation. By far, the most common problems are skin, mouth and vaginal infections, it may also infect the internal organs (9). But laryngeal candidiasis is not recognized widely or may be clinically documented and reported infrequently (1). This disease may occur after pulmonary, pharyngeal and esophageal candidiasis or as part of disseminated diseases (10, 11). It is also secondary to inhaled steroid therapy which is usually mild and has been reported in 10-15 percent of patients complaining dysphonia during treatment (3, 12). In the largest case series study by Wong et al. in 2009, only 54 patients were reported during a 10 – study period from 1995 to 2005 (13).

Few cases were reported previously. We report a case of laryngeal candidiasis with an unusual mimicking laryngeal carcinoma to describe the clinical and histological features of this condition and highlight the role of early diagnosis and treatment.

Case Report

A 79-year – old man presented to the E.N.T clinic at Ayatollah Rouhani Hospital of Babol, Iran, with 17 months of progressive hoarseness. He was panegyrist whose voice was getting worse during the eulogy. We referred him to speech therapy clinic video laryngoscopy. During video laryngoscopy, a white, vegetative mass on anterior one-third of right vocal cord was shown.

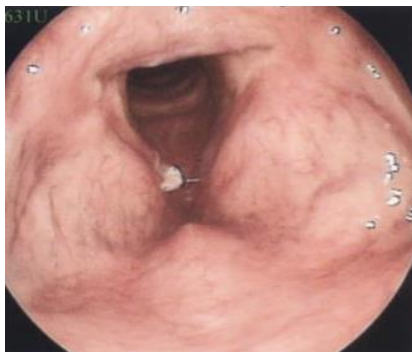


Figure 1. Video laryngoscopy of vocal cord

At first glance, it mimicked laryngeal carcinoma, so the decision for surgery was made by the surgeons. Under anesthesia, biopsy of the lesion was carried out to rule out malignancy. Histopathological examination revealed laryngeal mucosal with keratosis, degenerating necrotic epithelial cell aggregates containing hyphae and *Candida albicans*.

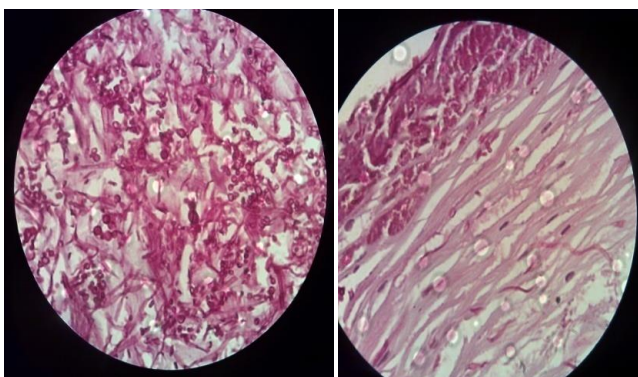


Figure 2. Parthology of vocal cord

The patient was treated with 200 mg of oral itraconazole once daily for 2 weeks. Video laryngoscopy after 2 weeks showed an improvement of the right vocal cord on the affected area.



Figure 3. Video laryngoscopy of vocal cord after treatment

Discussion

Laryngeal fungal infections must be considered in the different diagnosis of chronic laryngitis (1). A number of factors can increase the chance of the yeast growing out of control. The leading cause is the overuse of antibiotics. When we take antibiotics to deal with less friendly bacteria, we kill some harmless ones as well. Yeast which is unaffected by antibiotics moves in to the vacated spots once occupied by bacteria and starts to grow and multiply (1, 9). Steroids and some cancer medications weaken the immune system and can allow yeast to flourish. A year infection of the mouth (known as oral thrush) most often develop in people with disease such as cancer and AIDS (1, 9, 14).

They can also develop in people with diabetes or in people who have long – term irritation resulting from dentures. Laryngeal candidiasis always expands from oral cavity or due to oral thrush and it may result in the involvement of esophagus (5, 9, 15). The diagnosis of laryngeal candidiasis is suggested when white, curd – like patches are seen in the larynx but it can mimic laryngopharyngeal reflux disease (LPR), granulomatous disease, leukoplakia and carcinoma (4, 8, 11).

The most common symptom of laryngeal candidiasis is hoarseness, and dysphagia however, stridor and respiratory distress are reported infrequently (11, 16). A non–invasive method to diagnose laryngeal disease is video laryngoscopy which typically reveals hyperplasia, oedema, white curd like patches and white or grey pseudoepitheliomatosis in patients with candidiasis (1, 11, 17). Since vocalization of the vocal cords need to vibration of epithelial layer and making mucosal waves, so conceding to integration of mucosal

waves is very important because candidiasis affects superficial layer of the vocal cords. In this way stroboscovideolaryngoscopy provides better information of mucosal waves (11, 16, 18). Marked stiffness and interference of mucosal waves may occur on stroboscopy, 18). Biopsy is not most commonly used in candidiasis, however, if there is probability of malignancy (as in this case) or any other serious systematic disease, or if there is incomplete response to adequate therapy, the use of biopsy will be acceptable. Biopsy represents pseudoepitheliomatous hyperplasia with yeast forms and pseudohyphae. On histopathological examination, a fungal infection can be confirmed (5, 8, 19). All patients described in the literature have responded to conservative treatment including various anti-fungal drugs from intravenous amphotericin to oral fluconazole or ketoconazole to topical nystatin based on the severity of the disease. The duration of treatment varying from one week to one month depends on the scope of clinical progression (12, 14, 20). To evaluate the improvement or recurrence of disease, video laryngoscopy is suggested (6, 10). In conclusion, early diagnosis and treatment of candidiasis are important to prevent the spread of infection. Insufficient biopsy or inadequate treatment can lead to vocal function deficit especially on making integration of mucosal waves in vocalization time. Nevertheless, fungal infection can cover an underlying tumor progression, so biopsy and histopathological evaluation are necessary to early diagnose and rule out possible malignancy.

Conflict of Interest: There was no conflict of interest

References

1. Vrabec DP. Fungal infections of the larynx. *Otolaryngol Clin North Am* 1993; 26: 1091-114.
2. Nair AB, Chaturvedi J, Venkatasubbareddy MB, et al. A case of isolated laryngeal candidiasis mimicking laryngeal carcinoma in an immunocompetent individual. *Malays J Med Sci* 2011; 18: 75-8.
3. Heman-Ackah YD, Hawkshaw MJ, Lyons KM. Laryngeal thrush from asthma inhalers. *Ear Nose Throat J* 2012; 91: E24-5.
4. Tashjian LS, Peacock JE Jr. Laryngeal candidiasis. Report of seven cases and review of the literature. *Arch Otolaryngol* 1984; 110: 806-9.
5. Neuenschwander MC, Cooney A, Spiegel JR, Lyons KM, Sataloff RT. Laryngeal Candidiasis. *Ear Nose Throat J* 2001; 80: 139-9.
6. Walsh TJ, Gray WC. *Candida* epiglottitis in immunocompromised patients. *Chest* 1987; 91: 482-5.
7. Bolivar R, Gomez LG, Luna M, Hopfer R, Bodey GP. *Aspergillus* epiglottitis. *Cancer* 1983; 51: 367-70.
8. Forrest LA, Weed H. *Candida* laryngitis appearing as leukoplakia and GERD. *J Voice* 1998; 12: 91-5.
9. Pfaller MA, Diekema DJ. Rare and emerging opportunistic fungal pathogens: concern for resistance beyond *Candida albicans* and *Aspergillus fumigatus*. *J Clin Microbiol* 2004; 42: 4419-31.
10. Henry LR, Packer MD, Brennan J. Airway-obstructing laryngeal candidiasis in an immunocompetent host. *Otolaryngol Head Neck Surg* 2005; 133: 808-10.
11. K Kameswaran M, Anand Kumar RS, Natarajan K, et al. laryngeal thrush: merf experience. *Indian J Otolaryngol Head Neck Surg* 2006; 58: 329-31.
12. Nunes FP, Bishop T, Prasad ML, Madison JM, Kim DY. Laryngeal candidiasis mimicking malignancy. *Laryngoscope* 2008; 118: 1957-9.
13. Wong KK, Pace-Asciak P, Wu B, Morrison MD. Laryngeal candidiasis in the outpatient setting. *J Otolaryngol Head Neck Surg* 2009; 38: 624-7.
14. Chandran SK, Lyons KM, Divi V, Geyer M, Sataloff RT. Fungal laryngitis. *Ear Nose Throat J* 2009; 88: 1026-7.
15. Malton A, DeFatta RA, Sataloff RT. Acute candidal pharyngolaryngitis. *Ear Nose Throat J* 2012; 91: E31-2.
16. Richardson BE, Morrison VA, Gapany M. Invasive aspergillosis of the larynx: case report and review of the literature. *Otolaryngol Head Neck Surg* 1996; 114: 471-3.
17. Saraydaroglu O, Coskun H, Elezoglu B. An interesting entity mimicking malignancy: laryngeal candidiasis. *J Int Med Res* 2010; 38: 2146-52.
18. Pribuisiene R, Uloza V, Kupcinskis L, Jonaitis L. Perceptual and acoustic characteristics of voice changes in reflux laryngitis patients. *J Voice* 2006; 20: 128-36.
19. Lee DH, Cho HH. Primary candidiasis and squamous cell carcinoma of the larynx: report of a case. *Surg Today* 2013, 43: 203-5.
20. Divi V, Gupta R, Sataloff RT, Pebdani P. Laryngeal candidiasis. *Ear Nose Throat J* 2010; 89: 526.