



Supraglottic Mass: Always Malignancy?

Theochari NA MD^{1,*}, Chantzis K MD, MSc¹, Anastasopoulos S MD, MSc¹

1. Department of ENT, Head and Neck Surgery, General Hospital of Nikaia, Athens, Greece.

Corresponding Author: Nikoletta A. Theochari, MD, 29 Parnithos, 16344 Ilioupolis, Athens, Greece.

Copy Right: © 2022 Nikoletta A. Theochari, This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Received Date: January 27, 2022

Published Date: February 01, 2022

A 51-year-old man presented at an emergency room (ER) with a 3- day history of dysphagia, progressive dyspnea and stridor. The patient referred that he was receiving per os antibiotics for “laryngitis” the last two days. His medical history included diabetes mellitus type II, deep vein thrombosis, dyslipidemia, stress disorder, cigarette smoking and increased alcohol consumption. Transnasal flexible endoscopy showed left vocal fold immobility and a large, asymmetric mass of glottis that was extended on the supraglottic region outside of the laryngeal skeleton. Laboratory findings showed increased inflammation (WBC: 28.21 K/ μ L, normal range 4.0 – 10.0, CRP: 236 mg/L, normal rate <3mg/L). A neck computed tomography (CT) scan showed a soft-tissue mass 4.5 x 1.6 cm extending from the left aryepiglottic fold to the glottis located paravertebral and causing serious glottic stenosis. At ER the patient was given dexamethasone to control edema and prevent further obstruction. He was taken to the operating room where he underwent an emergency tracheotomy. Direct laryngoscopy revealed asymmetric tumescence of the supraglottic region. We tried twice to puncture the mass but we didn't notice any pus. Biopsies were taken for histopathological examination. The patient was admitted to the ENT department where he stayed for 20 days. During his hospitalization, although we observed improvement in his laboratory findings, the patient's edema hadn't decreased, vocal cords remained immobile and he still needed a nasogastric tube for feeding. On the 7th day of hospitalization, the patient underwent an MRI that described the mass as an inflammatory lesion without abscess. Pathological examination revealed hyperplasia and reactive atypia of stratified squamous epithelium with the presence of ulceration. During the 1-month follow

up transnasal flexible endoscopy showed no detectable laryngeal lesions and the vocal fold mobility was intact.

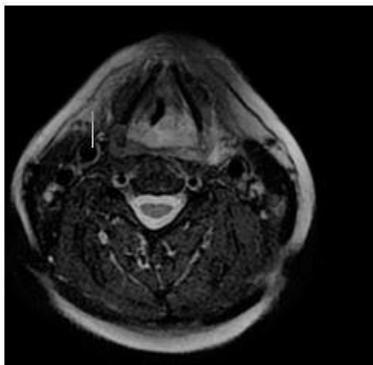
What is your diagnosis?

1. Laryngeal carcinoma Contact ulcer granuloma
2. Inflammatory thickening
3. Papilloma

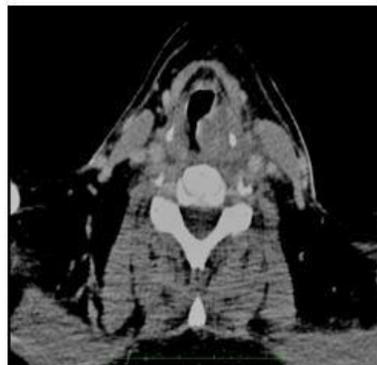
Diagnosis.

Inflammatory thickening

A. MRI



B. CT



C. Image from endoscopy before treatment



D. Image from endoscopy after treatment



E. Histopathological image

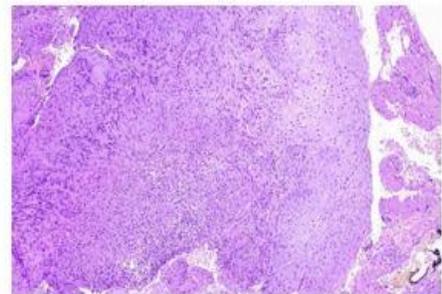


Figure. A. MRI of the larynx B. CT of the larynx C. Transnasal endoscopy before treatment D. Transnasal endoscopy after treatment E. Histopathological image

Discussion

Laryngeal tumors are divided into benign, malignant lesions and a variety of inflammatory diseases.[1] Squamous cell carcinomas (SCC) comprise 95 % of all laryngeal masses and arise from the glottic region and namely the true vocal cords. Other laryngeal malignancies include carcinoma in situ, verrucous, spindle cell and basaloid SCC, undifferentiated carcinoma, adenocarcinoma, miscellaneous carcinomas (adenoid cystic, neuroendocrine carcinomas, etc) and sarcomas.[2] With regards to benign tumors, papilloma accounts for 85 % of all benign lesions. Other types include chondroma, lymphangioma, schwannoma, haemangioma, adenoma, neurofibroma, fibroma, granular cell myoblastoma, leiomyoma, lipoma, rhabdomyoma and paraganglioma.[2,3] Clinically, inflammatory tumors appear as fibrous nodules, polypoid tumors, pedunculated tumors, inflammatory thickenings, papillary growths and contact ulcer granulomas.[4]

In 1938, New and Erich described inflammatory thickenings as the result of an inflammatory process that produces a tumor-like thickening of a part of the larynx rather than a nodular, polypoid, pedunculated or papillary type of tumor that projects into the laryngeal lumen. [4] When these tumors have large dimensions they may cause enough obstruction in the larynx to induce severe dyspnea, hoarseness and swallowing pain. Moreover, if the lesion involves extensively a vocal cord, it can cause immobility due to inflammatory induration. When ulceration coexists, as happened in our case, the lesion strongly mimics a malignant condition. Therefore, an inflammatory tumor may bear a similarity to any type of laryngeal neoplasm not only in clinical manifestation (symptoms and mode of onset) but also in gross appearance.

Since inflammatory thickenings limited to the larynx may mimic the initial presentation of laryngeal cancer, they should be studied primarily with CT. MRI is rarely indicated in inflammatory conditions of the larynx since a significant proportion of MR studies will be of poor quality owing to motion artifacts. Therefore, such studies will add limited additional information that might alter serious decisions.[5] However, MRI is mandatory for differential diagnosis between malignant and non-malignant tumors. In our case, MRI played a crucial role in deciding not to make a laryngectomy to our patient, since it revealed that the mass was an inflammatory thickening. What is important in the diagnosis of these lesions is to determine that the condition is inflammatory and not malignant. For this purpose, a histopathological examination is mandatory.

With regards to treatment modalities, most of these thickenings are expected to eradicate with non-surgical conservative treatment. In our case, the patient received antibiotics and corticosteroids and after one month of follow-up, there was no lesion. However, if the mass doesn't resolute after some weeks or if there is a doubt that the tumor is malignant and excision should be performed.[1]

References

- 1.S. Doğan, A. Vural, G. Kahriman, H. İmamoğlu, Ü. Abdülrezzak, and M. Öztürk, “Non-squamous cell carcinoma diseases of the larynx: clinical and imaging findings,” *Braz. J. Otorhinolaryngol.*, vol. 86, no. 4, pp. 468–482, 2020, doi: 10.1016/j.bjorl.2019.02.003.
2. N. Mastronikolis et al., “Head and neck: Laryngeal tumors: an overview,” *Atlas Genet. Cytogenet. Oncol. Haematol.*, vol. 13, no. 11, pp. 888–893, 2011, doi: 10.4267/2042/44625.
3. Y. Ma, B. Zhou, and S. Wang, “Large lipoma in the subglottic larynx: a case report,” *J. Int. Med. Res.*, vol. 48, no. 6, 2020, doi: 10.1177/0300060520928786.
4. G. New, Erich J, "BENIGN TUMORS OF THE LARYNX A STUDY OF SEVEN HUNDRED AND TWENTY-TWO CASES ," *Archives of otolaryngology*, 1938.
5. V. Joshi, V. Wadhwa, and S. Mukherji, “Imaging in laryngeal cancers,” *Indian J. Radiol. Imaging*, vol. 22, no. 3, pp. 209–226, 2012, doi: 10.4103/0971-3026.107183.