

**Case report****A case report on submucosal laryngeal lesion: a diagnostic jinx**

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**ABSTRACT**

Larynx plays an important role for activities like speech, swallowing & respiration. To preserve all these functions early diagnosis & treatment of laryngeal disease is necessary. Laryngeal squamous cell carcinoma is the second most common cancer among head and neck cancers.

**Key words:** Larynx, squamous cell carcinoma**INTRODUCTION**

Larynx plays a central role in speech, swallowing and respiration and hence it is extremely important to make the correct diagnosis before embarking on a mutilating surgery. Laryngeal squamous cell carcinomas are the **second most common** among head and neck cancers and a good number of patients present with this disease. Being a pivotal organ, its **functional preservation** becomes vital for patients. **Early diagnosis** is the key for good control with preservation of form and function.

**AIM AND OBJECTIVE**

To solve the diagnostic dilemma of the discrepancies between the **clinical and histopathological finding** in a case of submucosal lesion of the larynx.

**METHODOLOGY****History**

The patient presented on 4/2/2013 with complaints of (1) Throat pain and dysphagia since 2 months, (2) Change in voice since 1 month. Patient is a smoker (beedi) since 20 years.

**Investigations**

CT scan was suggestive of well defined, hypodense left vocal cord mass lesion infiltrating left paraglottic space and muscle with erosion of the thyroid, cricoid and left arytenoid cartilages. The lesion was extending into the left pyriform fossa

Direct laryngoscopy was done twice. Both the times, the findings were of submucosal disease involving left aryepiglottic fold and the false vocal cord with reduced movement of left vocal cord and

completely normal overlying mucosa. Both the times punch biopsies were taken. The histopathological findings of both were suggestive of submucosal fibrosis and inflammation but no evidence of malignancy. USG guided biopsy was tried from the growth but failed to obtain any tissue.

After giving ample thought and with proper counselling and consent of the patient, the following course of action was taken. Patient was posted for a frozen section with a plan to proceed with definitive surgery if required. Intraoperative biopsy was taken from growth involving the strap muscle for frozen section examination. It was reported as squamous cell carcinoma and decision was made to go ahead with near total laryngectomy.

On exploration, lesion was found to be submucosal in the left Aryepiglottic fold and in the medial wall of the pyriformfossa with normal overlying mucosa. Near total laryngectomy was completed and the resected specimen was sent for histopathology on 27/2/2013. Histopathology report indicated infiltrating growth involving left Aryepiglottic fold and pyriformfossa of 2.5x1.5x0.8cm of squamous cell carcinoma. The thyroid, was found involved by malignancy. Post operative course of the patient was uneventful and the patient was discharged on the 8<sup>th</sup> postoperative day.

**DISCUSSION**

A patient presents with symptoms pertaining to larynx such as hoarseness, breathing difficulty (stridor) throat pain, otalgia, odynophagia, trismus and dysphagia. The immediate investigations would be to either confirm or rule out a laryngeal lesion. This can be done by either or both, imaging and laryngoscopy. Once a laryngeal lesion is diagnosed, the next step consists of making a diagnosis

whether the lesion is a malignant or a benign one. If the appearance and the clinical behaviour of the lesion are suggestive of malignancy, before embarking on the radical treatment of the malignancy, the prime responsibility lies with the surgeon to conclusively prove the malignant nature of the lesion. This can be done by a confirmatory histopathological diagnosis. However, sometimes, as in the case presented above, the histopathological reports are inconclusive forcing the clinician to go for repeated biopsies and hence losing time in making a definitive early diagnosis in the process. This delay in the diagnosis pushes the lesion to a higher stage as a result of which a function preserving, curative procedure may then be not possible. Hence arises the question of making a positive early diagnosis in the scenario of such a diagnostic jinx.

**Saleh EM et al [1]** have reported a study of 24 cases of submucosal masses of larynx where the delay in the diagnosis from 6 weeks to 9 months. All the 24 patients had CT scans, out of which 12 were reported as Squamous cell carcinomas. All patients then underwent laryngoscopy with biopsy with an average of 2 to 5 laryngoscopies and 1 to 4 negative biopsies. In 3 patients, biopsy was not possible as the growth was not visible. 13 biopsies turned out as positive. 12 of these were reported as SCC on CT scan. Other diagnosis were laryngocele, chondrosarcoma, lymphoma, paraganglioma, tuberculous laryngitis.

Another case series by **Close LG et al [2]** of 51 patients of submucosal carcinoma reports 5 patients with no mucosal lesion on CT scan or laryngoscopy. All five patients had at least one endoscopic procedure with one negative biopsy with average delay in diagnosis of 19.8 weeks.

Similar cases have been reported by **Graham C Porter et al [3]** of subglottic submucosal growths. These were managed with intraoperative frozen sections followed by total laryngectomy with delay of 6 months.

A case report by **S. Mirra et al [4]** of aggressive fibromatosis of glottis was treated with total laryngectomy after clinically suspicious malignant lesion on CT scan with negative biopsy after endoscopy. Even in such cases where definite diagnosis was not reached before surgery, review of literature still supports total laryngectomy with clear margins.

This data shows that the dilemma is not new. There has not been any improvement with the addition of new imaging modalities in the armamentarium of the diagnostician. This can be amply proven by a

study by **Gordon McCoy [5]** in his study in 1954. He reports 2 patients with repeated negative biopsies. Both were managed with thyrotomy and intraoperative frozen sections and then preceded with completion of treatment in case of CA larynx. In the index case, there was a delay of 3 months, but the second case was taken upfront for planned treatment from previous experience.

All the above mentioned references and cases discussed suggest that any clinically suspicious lesion should be managed aggressively to establish early diagnosis to aid in a curative and function preserving procedure. In spite of going for repeated biopsies the diagnosis can be confirmed by one of the following methods:

- 1) Intraoperative frozen section and then proceed. However this is possible only if the lesion has infiltrated to become extralaryngeal,
- 2) Exploratory thyrotomy in case lesion is intralaryngeal,
- 3) Endoscopic incision of mucosa and deep punch biopsy and
- 4) CT guided biopsy

## CONCLUSION

The diagnosis of submucosal squamous cell carcinoma of the larynx is an age old problem and often presents as a diagnostic puzzle due to discrepancies between the clinical and histopathological diagnosis. In cases such as this, where repeated laryngoscopic biopsies are negative, intraoperative frozen section or thyrotomy should be done to come to an early definitive diagnosis and save valuable time. A frozen section biopsy makes sure that the biopsy is taken from the growth and not the surrounding normal tissue. Hence, instead of going for repeated attempts of biopsy by the same method, another method of biopsy should be applied after 2 failed attempts. Also, definitive treatment should always be undertaken in the same sitting as the frozen section or the thyrotomy as these procedures breach the anatomical plane and the lymphatic barrier.

## REFERENCES

1. Saleh EM, Mancuso AA, Stringer SP. CT of submucosal and occult laryngeal masses. J Comput Assist Tomogr. 1992 Jan-Feb;16(1):87-93.
2. Close LG, Merkel M, Reisch J, Burns DK, Schaefer SD. Silent supraglottic carcinoma. Otolaryngology Head Neck Surg. 1988 Sep;99(3):286-95.

3. Porter Graham C, Jayaraj Samuel M, Frosh Adam C, Patel Kalpesh S. Submucosal squamous cell carcinoma of the subglottis. *Otolaryngology*: 1999;745-6.
4. S Mirra, S. Calo, T. Salviato, D. Della Libera, G. Falconieri. Aggressive Fibromatosis of the Larynx: Report of a new case in an Adult Patient and Review of the Literature. *Pathology: Research and Practice*. 2001;197(1):51-5.
5. Gordon McCoy. Atypical laryngeal lesions – Problem in diagnosis. *Calif Med*. 1954 November;81(5):328-31.

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