Open Access Original Research Article

MedPeer Publisher
Abbreviated Key Title: MedPeer
ISSN : 3066-2737
homepage: https://www.medpeerpublishers.com

Adenosquamous carcinoma of the larynx difficulty of diagnosis: a case report

DOI: 10.70780/medpeer.000QGTX

AUTHORS AND AFFILIATION

El Mehdi Harbili[1], Ahmed Rouihi[1], Mohamed Sahli[1],Badr Amrani[1], Mouad Moujoud[1],Mohamed Zalagh[1], Saloua Ouraini[1], Bouchaib Hemmaoui[1], Fouad Benariba[1], Noureddine Errami[1]

[1]Department of Otorhinolaryngology and Head and Neck Surgery,
Mohammed V Military Teaching Hospital, Faculty of Medicine and Pharmacy, Rabat, Morocco.

Corresponding author : El Mehdi Harbili .

ABSTRACT

Adenosquamous carcinoma (ASC) of the larynx is a very rare and aggressive malignant tumor of the upper aerodigestive tract characterized by the coexistence of malignant squamous and glandular components. It is associated with a high rate of local recurrence, early cervical lymph node metastasis, and distant dissemination, resulting in poor prognosis. We report the case of a 69-year-old woman presenting with progressive hoarseness evolving over four months without dysphagia. Endoscopic examination revealed a supraglottic mass involving the left false vocal cord with impaired mobility of the ipsilateral true vocal cord and associated cervical lymphadenopathy. Histological diagnosis was difficult and required multiple deep biopsies before confirmation of adenosquamous carcinoma. Imaging demonstrated locoregional extension and distant metastases, and the tumor was staged as IVB (T4bN1M1). This case highlights the diagnostic challenges and aggressive behavior of laryngeal ASC and emphasizes the importance of deep submucosal biopsy and multidisciplinary management.

KEYWORDS :

Carcinoma, Adenosquamous; Laryngeal Neoplasms; Biopsy; Head and Neck Neoplasms; Lymphatic Metastasis

MAIN ARTICLE

INTRODUCTION

Adenosquamous carcinoma (ASC) is a rare malignant epithelial tumor characterized by the coexistence of both squamous cell carcinoma and adenocarcinoma components within the same lesion [1,2]. It represents a distinct histopathological entity with aggressive biological behavior, marked by a high propensity for local recurrence, early cervical lymph node metastasis, and distant dissemination [1,3].
In the head and neck region, ASC accounts for a very small proportion of malignant tumors and most commonly arises in the larynx, particularly in the supraglottic region [2,4]. Because of its predominant submucosal growth pattern and histological complexity, diagnosis is often delayed or difficult, frequently requiring repeated deep biopsies to establish the correct diagnosis [1,5].
Due to its rarity, no standardized treatment protocol has been established for laryngeal adenosquamous carcinoma. Current management strategies are largely extrapolated from those used for high-risk squamous cell carcinomas of the larynx, combining radical surgery with adjuvant radiotherapy and, in selected cases, chemotherapy [3,4,6]. Despite aggressive treatment, prognosis remains poor, particularly in advanced stages, underscoring the importance of early diagnosis and multidisciplinary management [4,6].

PATIENT AND OBSERVATION

A 69-year-old woman presented with a four-month history of progressive hoarseness without dysphagia. She had no significant past medical history, was a non-smoker, and did not consume alcohol.

Indirect laryngoscopy revealed a mass involving the left false vocal cord with impaired mobility of the ipsilateral true vocal cord. Cervical examination showed ipsilateral upper jugular lymphadenopathy. Direct microlaryngoscopy demonstrated a smooth, reddish submucosal swelling involving the entire left false vocal cord, extending to the ipsilateral arytenoid and ventricular surface, with inferior extension to the glottis.

Histological diagnosis was particularly challenging and required four successive deep biopsies before adenosquamous carcinoma was confirmed. Radiological assessment demonstrated locoregional tumor extension with regional lymph node involvement and distant metastases. According to the TNM classification based on imaging, the tumor was staged as IVB (T4b, N1, M1). (Figures: 1,2,3)

Following histopathological confirmation and staging, the case was discussed in a multidisciplinary tumor board. Given the advanced stage of the disease and the aggressive histological subtype, the patient was treated with definitive radiotherapy as the sole therapeutic modality.

Radiotherapy was delivered using external beam techniques to a total dose of [60–70] Gy, administered in [1.8–2.0] Gy fractions, [5] fractions per week, according to institutional protocols. The patient was subsequently referred for regular clinical and radiological follow-up.

DISCUSSION

Adenosquamous carcinoma (ASC) of the larynx is an exceptionally rare malignant tumor of the upper aerodigestive tract. It represents a distinct histopathological entity characterized by the coexistence of malignant squamous and glandular components within the same tumor [1,2]. Among head and neck localizations, the larynx appears to be the most frequently involved site, although ASC accounts for only a very small fraction of all laryngeal malignancies [6].

ASC is known for its aggressive biological behavior compared with conventional squamous cell carcinoma. Several recent retrospective series have confirmed a tendency toward advanced local presentation, early cervical lymph node involvement, and distant metastasis [6,7]. This aggressive course largely explains the poor prognosis reported in the literature, particularly in patients diagnosed at an advanced stage [1,4,6]. These findings are consistent with the clinical course observed in our patient, who presented with locally advanced disease and distant metastases at the time of diagnosis.

From a histopathological standpoint, the diagnosis of ASC is often challenging. The tumor typically develops in the submucosal layer, which may result in false-negative superficial biopsies [1,3,5]. As emphasized in both historical and recent studies, deep and repeated biopsies are frequently required to demonstrate the dual malignant components necessary for diagnosis [2,6]. In our case, four successive biopsy procedures were needed before the diagnosis of adenosquamous carcinoma could be established, highlighting this well-recognized diagnostic pitfall.

Clinically, the presenting symptoms of laryngeal ASC do not differ significantly from those of other laryngeal malignancies and depend largely on tumor location [2,6]. Hoarseness remains the most common initial symptom in supraglottic and glottic involvement. Cervical lymphadenopathy is frequently present at diagnosis, reflecting the tumor's propensity for early nodal spread [1,6]. These features were observed in the present case and are consistently reported in the literature.

Because of the rarity of ASC, there is no standardized therapeutic strategy. Treatment recommendations are generally extrapolated from the management of high-risk laryngeal squamous cell carcinoma [4,6,8]. Most authors advocate radical surgical resection with neck dissection when feasible, given the high risk of locoregional recurrence and nodal involvement [1,4,6]. Adjuvant radiotherapy, with or without chemotherapy, is commonly proposed in advanced stages or in the presence of adverse histopathological features [6–8]. Despite multimodal treatment, outcomes remain inferior to those observed in conventional squamous cell carcinoma, particularly in advanced disease [6,7].

Prognosis depends primarily on tumor stage at diagnosis, nodal status, and the presence of distant metastases [1,6,7]. Recent series published after 2021 confirm that advanced T stage and nodal involvement are the strongest predictors of poor survival [6,7]. Early diagnosis remains the most important factor for improving outcomes, although this is often hindered by the tumor's submucosal growth pattern and diagnostic difficulty [1,3,6].

CONCLUSION

Adenosquamous carcinoma of the larynx is a rare but biologically aggressive malignancy that requires high clinical suspicion and rigorous diagnostic efforts. Given its tendency for high-stage presentation and early metastatic spread, early and deep submucosal biopsy is essential for diagnosis. Multidisciplinary management, including surgery and adjuvant therapies, should be considered on a case-by-case basis. Prognosis remains guarded, particularly in advanced stages, underscoring the need for further research and registry-based aggregation of outcomes in this rare tumor subtype

FIGURES:

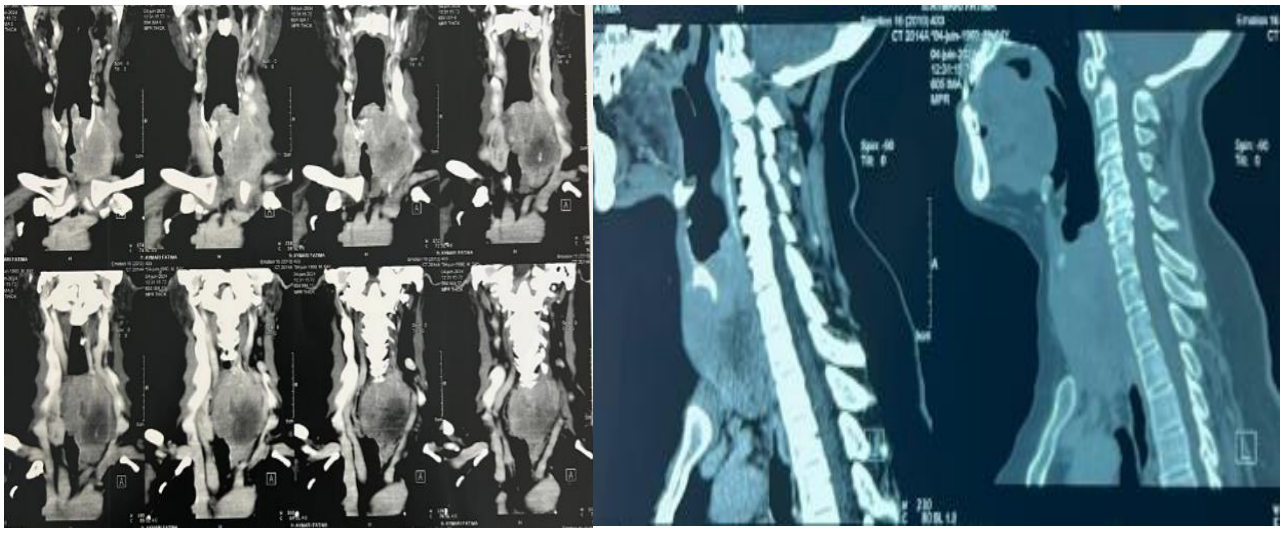

Figure 1: Cervical CT scan coronal cut (A) sagittal cut (B) showing the tumor encroching all 3 laryngeal floors

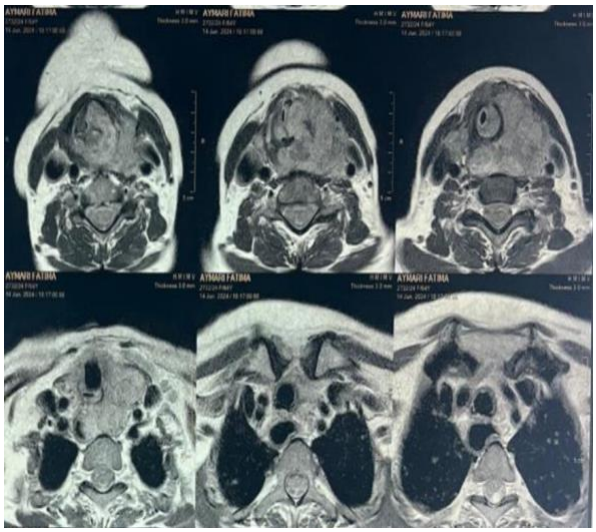

Figure 2: MRI T2 sequence showing the tumor locally advanced reaching cervical vertebrea posteriorly

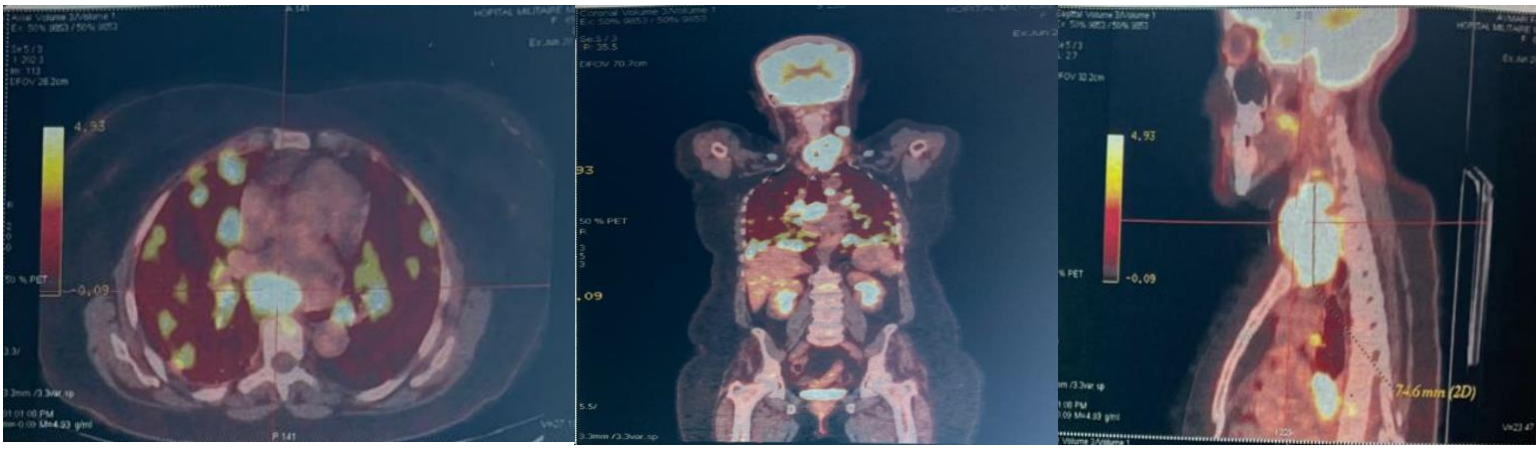

Figure 3 : PET scan A: Lungs metastasis B: Metastasis (Left UJ lymph node+ lungs) C: Hypermetabolic primary tumor

ACKNOWLEDGEMENTS

Funding
No funding was received for this study.

Conflicts of Interest
The authors declare no conflicts of interest.

Patient Consent
Written informed consent was obtained from the patient for publication of this case and any accompanying images.

REFERENCES

1. Ferlito A. Pathologic and clinical study of adenosquamous carcinoma of the larynx. *Acta Otorhinolaryngol Belg.* 1976;30:379-389.

2. Gerughty RM, Hennigar GR, Brown FM. Adenosquamous carcinoma of the nasal, oral and laryngeal cavities. *Cancer.* 1968;22:1140-1155.
https://doi.org/10.1002/1097-0142(196811)22:6<1140::AID-CNCR2820220610>3.0.CO;2-1

3. Ellis GL, Auclair PL, Gnepp DR. Other malignant epithelial neoplasms. In: *Surgical Pathology of the Salivary Glands.* Philadelphia: Saunders; 1991. p. 455-488.

4. Napier SS, Gormely JS, Newlands C, Ramsay-Baggs P. Adenosquamous carcinoma: a rare neoplasm with aggressive course. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 1995;79:607-611.
https://doi.org/10.1016/S1079-2104(05)80103-9

5. Keelawat S, Liu CZ, Roehm PC, Barnes L. Adenosquamous carcinoma of the upper aerodigestive tract. *Am J Otolaryngol.* 2002;23:160-168. https://doi.org/10.1053/ajot.2002.123462

6. Paderno A, et al. Head and neck adenosquamous carcinoma: retrospective series and prognostic factors. *Acta Otorhinolaryngol Ital.* 2023.

7. Yadav S, et al. Case series of head and neck adenosquamous carcinoma. *Cancer Journal.* 2023;29(1):58-64.

8. Hut AR, et al. Modern trends in laryngeal cancer epidemiology and management. *J Clin Med.* 2024;13(21):6421.