Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Radiotherapy

Carcinosarcoma of the Larynx: A Reported Case

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DOI: https://doi.org/10.36347/sjmcr.2024.v12i09.019 | **Received:** 04.08.2024 | **Accepted:** 09.09.2024 | **Published:** 10.09.2024

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Abstract **Case Report**

Spindle cell carcinoma (SCC), also referred to as sarcomatoid carcinoma or carcinosarcoma, is a rare and aggressive form of squamous cell carcinoma featuring both malignant epithelial and mesenchymal elements. This report details a case of laryngeal spindle cell carcinoma and includes a review of relevant literature on this uncommon tumor type.

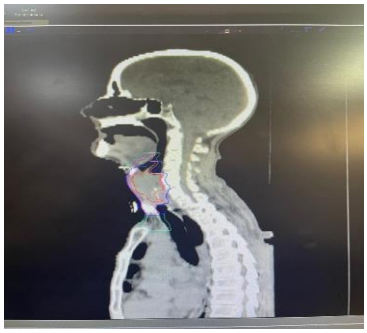
Keywords: Carcinosarcoma, larynx, Radiation.

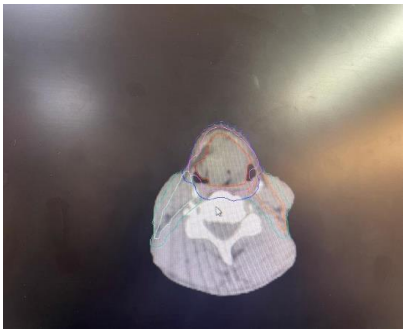
INTRODUCTION

Spindle Cell Carcinoma (SCC), also known as sarcomatoid carcinoma or carcinosarcoma, is an uncommon form of squamous cell carcinoma, making up less than 1% of all laryngeal cancers in adults [1]. Diagnosis is primarily based on histopathological examination. The prognosis for SCC can vary widely depending on factors such as age, gender, overall health, tumor location, and histological type. Due to the limited number of reported cases, there is insufficient analysis of prognostic factors and clinical-pathological characteristics [2]. Consequently, there is no established standard treatment for this condition. On the basis of a new, highly demonstrative case report and data from the literature, we wanted to take stock of the clinical and therapeutic positions of the various authors.

OBSERVATION

The patient, aged 63, with a pathological history of COPD, chronic smoking at a rate of 18 PA weaned 5 years ago and a family history of two sisters who died of breast cancer, consulted for intermittent dysphonia that had become permanent associated with dysphagia to solids and the appearance of dyspnea on exertion. Laryngoscopy revealed a 3-stage budding tumor of the left hemilarynx extending anteriorly to the foot of the epiglottis and the left ventricular band, inferiorly to the subglottis, early involvement of the trachea laterally and submucosal thickening of the medial wall of the left piriform sinus. A surgical biopsy was performed. Histological examination showed a morphological and immunohistochemical appearance of a moderately differentiated squamous cell carcinoma with a second spindle cell component that was widely ulcerated on the surface and infiltrated the superficial chorion without vascular emboli. A thoracic-abdominal-pelvic CT scan revealed a locally infiltrating laryngeal lesion process in the glottic region. Suspicious bilateral pulmonary nodules and micronodules. Emphysematous lung. Bilateral parenchymatous foci of condensation associated with foci of DDB and branching micronodules and a small right pleural effusion of probable infectious origin. A tracheotomy was performed. The patient received exclusive radiotherapy and is currently being monitored.





DISCUSSION

Spindle Cell Carcinoma (SCC) is a rare, biphasic tumor that features both epithelial and mesenchymal components. This subtype was first described by Kirklin *et al.*, in 1951 and referred to as "Spindle Cell Squamous Carcinoma" by Virchow in 1864. King Jr. introduced the term "true mixed malignancy" in 1976 [4, 5]. Although SCC is infrequently found in the larynx, accounting for just 2%–3% of head and neck cancers [6] and less than 1% of all laryngeal malignancies in adults [1], it predominantly affects individuals aged 50 to 79 with a male-to-female ratio of 13:1 [1]. Major risk factors include alcohol use, smoking, and previous radiation therapy [7].

Symptoms of SCC vary depending on the tumor's location and extent, with early-stage cases often presenting as hoarseness and advanced stages showing dyspnea. Involvement of the lower pharynx can lead to dysphagia. Diagnostic imaging methods, such as endoscopy, CT, or MRI, are used to assess tumor size and invasion, while ultrasound [7] is effective for evaluating lymph node metastasis. PET-CT scans help identify distant metastases [1, 7]. Histopathological examination is crucial for diagnosis, with immunohistochemistry used to identify heterologous differentiation—cytokeratin (CK) is positive in epithelial components [7] and vimentin is positive in mesenchymal components.

Laryngeal SCC is classified using the TNM system, following the American Joint Committee on Cancer guidelines. Treatment protocols vary, with surgical resection and regional lymphadenectomy being the primary approaches. The role of radiation therapy (RT) remains debated [2]. A study by Yang Zhang *et al.*, recommended combining surgery with RT, especially for stage II or higher tumors. Patients receiving postoperative RT (66 to 80 Gy) had better outcomes, with no recurrence in seven patients, while those who did not receive RT experienced recurrence within 5 to 13 months [12]. Conversely, Ballo *et al.*, suggested that RT alone might be effective for some patients [13].

A review of 59 patients with laryngeal sarcoma treated mostly with surgery and RT indicated better survival outcomes with combined treatment compared to RT alone [14]. A study from Philadelphia involving 187 cases showed that surgical treatment alone generally resulted in better outcomes than combined surgery and postoperative RT. Patients treated with surgery alone had a longer mean follow-up and lower disease-specific mortality compared to those who received both surgery and RT [15].

Factors such as tumor stage, location, vocal cord movement, previous radiation, and necrosis significantly impact prognosis. A 2020 systematic review of 300 cases found that adjuvant RT might be justified for high-risk patients—those with tumors larger than 3 cm, cartilage invasion, or metastasis [16]. The median progression-free survival was 48 months, and overall survival was 224 months, with poorer outcomes associated with tumor growth, cartilage invasion, and positive margins.

CONCLUSION

Primary laryngeal Spindle Cell Carcinoma (SCC) is a highly rare cancer. While no definitive care standards have been established, current literature suggests that surgery is considered the most effective treatment. Adjuvant radiation therapy is also an option, but its effectiveness remains a subject of debate.

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