



# Sarcomatoid Squamous Cell Carcinoma of Vocal Cord: An Uncommon Malignancy

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## Abstract

Sarcomatoid squamous cell carcinoma is a rare variant of laryngeal carcinoma, which comprises 1.3% of all laryngeal malignancies. It is mainly seen in elderly individuals, with smoking and alcohol being common risk factors. The tumor is most common on true vocal cords; hence, patients especially present with dysphonia. We present a case of an elderly male patient who presented with dysphonia due to a vocal cord lesion. During microlaryngoscopy, a firm, exophytic lesion with a narrow stalk was attached to the anterior one-third of the right vocal cord, excised, and sent for histopathology. Histopathology was suggestive of sarcomatoid squamous cell carcinoma. The patient was successfully treated with radiotherapy. We conclude that benign-appearing laryngeal lesions need to be evaluated and histopathological examination to be performed so that rare entities such as sarcomatoid carcinoma, which mimics benign lesions, can be managed appropriately.

## Keywords

- sarcomatoid
- spindle cell
- vocal cords
- microlaryngoscopy
- radiotherapy

## Introduction

Carcinoma of the larynx is one of the common malignancies in India. The most common histological type of laryngeal carcinoma is squamous cell carcinoma (SCC). Sarcomatoid or spindle cell carcinoma is the rarest variant of SCC, which comprises 1.3% of it.<sup>1</sup> Sarcomatoid carcinoma is considered the most malignant among laryngeal carcinoma.<sup>2</sup> Because it is an uncommon variety, it is often misdiagnosed as reactive lesions or mesenchymal malignancy.<sup>3</sup> Sarcomatoid squamous cell carcinoma is the most commonly noted at the level of the glottis.<sup>4</sup> It is a biphasic tumor due to its epithelial and mesenchymal components.<sup>5</sup> Here, we present a patient diagnosed with sarcomatoid squamous cell carcinoma of the right vocal cord in the early stage and was treated successfully.

## Case Report

A 78-year-old male patient presented to the department of ENT with a history of change in voice for the last 2 months,

which progressed over the previous month. He is a chronic smoker with 110 pack-years of smoking. There was no history of chronic cough, weight loss, fever, voice trauma, hemoptysis, or difficulty breathing. He did not have any other comorbidities. The external laryngeal framework was normal on physical examination, and there was no cervical lymphadenopathy. On videolaryngoscopy, an exophytic lesion was noted in the anterior one-third of the right vocal cord (→Fig. 1). Bilateral vocal cords were normal and mobile.

As a part of further investigation, a contrast-enhanced CT scan of the neck was done, which showed mild asymmetrical thickening of the right true vocal cord measuring 6mm when compared with the left side of size 3.5 mm (→Fig. 2). The rest of the larynx and paraglottic space seems to be normal. The postcricoid region, esophagus, thyroid gland, parotid, submandibular salivary glands, and parapharyngeal spaces were normal. There was no evidence of cervical lymphadenopathy.

We performed micro laryngeal surgery, which showed a firm exophytic lesion with a narrow stalk in the anterior one-

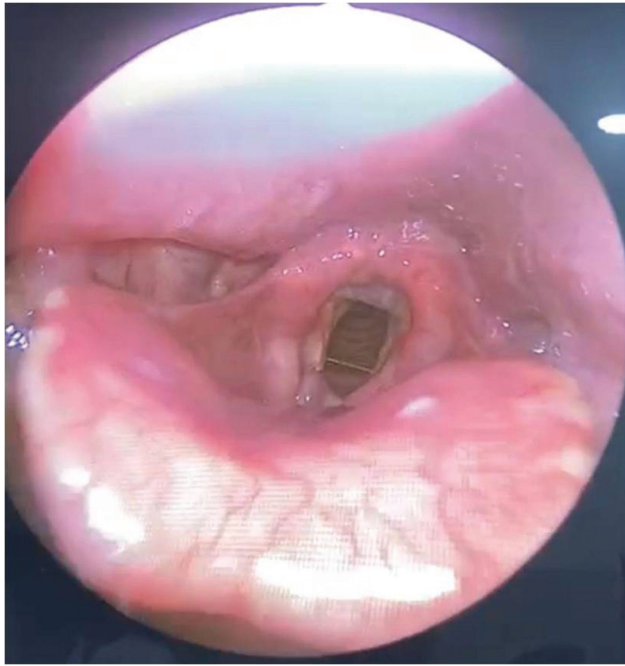
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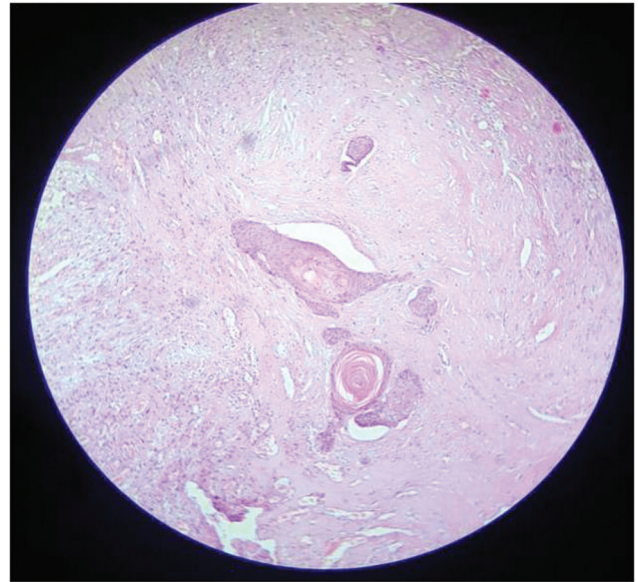


**Fig. 1** Videolaryngoscopic image showing an exophytic lesion in the right vocal cord.

third of the right true vocal cord without extending to the anterior commissure. The lesion was excised and sent for histopathological examination. Microscopy showed squamous cells in nests and sheets (► **Fig. 3**) with spindle cells in sheets and marked pleomorphism (► **Figs. 4 and 5**).

Histological features were suggestive of the spindle cell variant of squamous cell carcinoma.

The patient was staged as T1N0Mx (stage I) and radiotherapy was advised. The patient received a total dose of 66 Gy in 30 fractions of external beam radiotherapy. He tolerated the radical radiotherapy and responded well to the

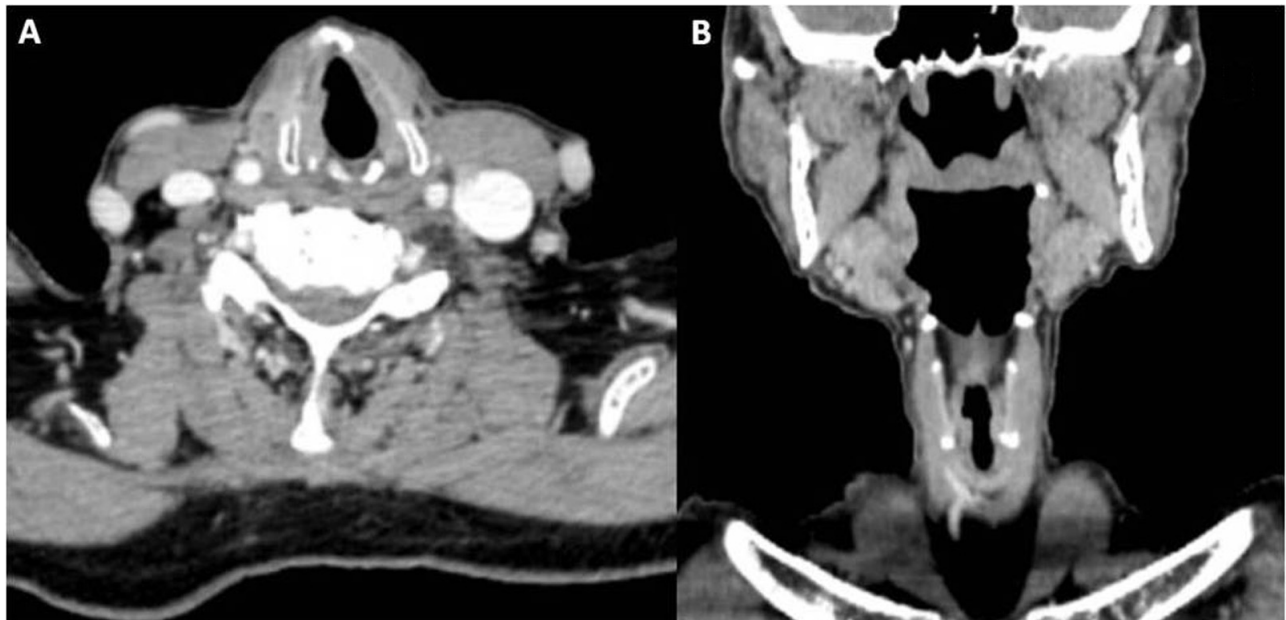


**Fig. 3** Microscopic image shows squamous cells in sheets and keratin pearl formation (H&E, 10X).

treatment. Video laryngoscopic examination post-radiotherapy showed no residual disease. This patient was called for follow-up after 1 month, which showed no residual tumor.

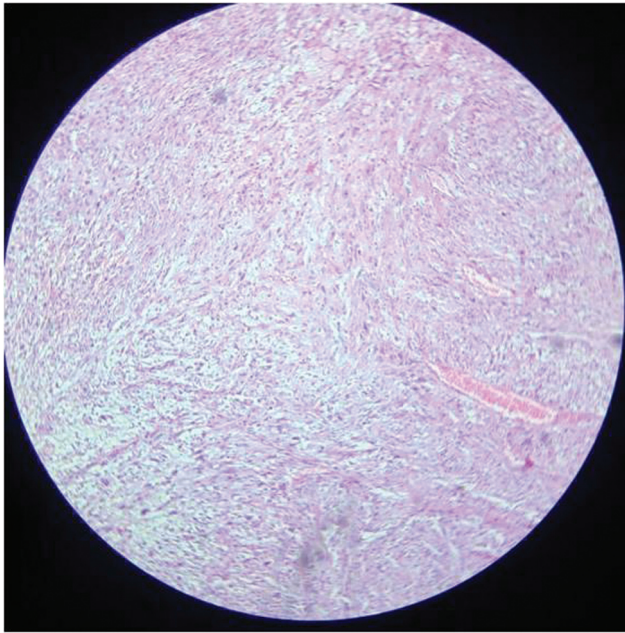
## Discussion

Most laryngeal malignancies are squamous cell carcinoma which comprises >95% of all laryngeal malignancies. Sarcomatoid or spindle cell carcinoma is a rare variant that comprises 1.3%.<sup>1</sup> Due to its rare, aggressive, unique nature, and histology, it is called a collision tumor.<sup>6</sup> It is predominantly noted in men in the older age group of 60 to 70 years.<sup>7</sup> The patient reported here is a male aged 78 years. Spindle cell carcinoma has a strong association with a history of cigarette

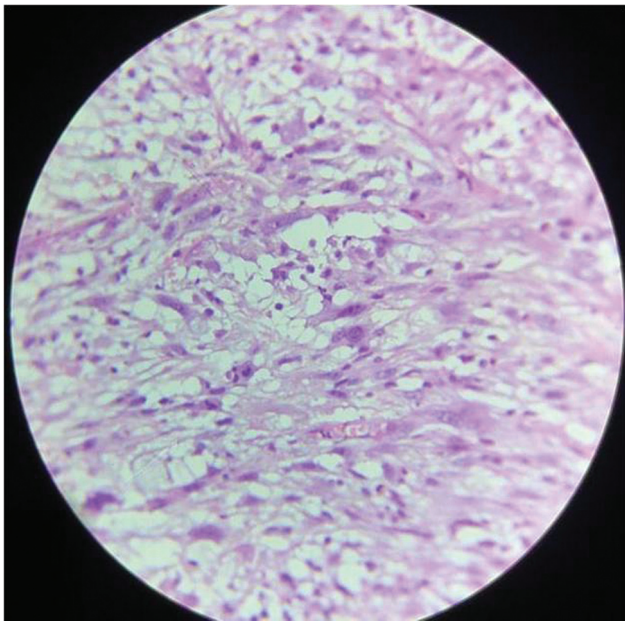


**Fig. 2** CECTNeck (A-axial; B-coronal) showing asymmetrical thickening of the right vocal cord.





**Fig. 4** Microscopic image shows spindle-shaped cells in sheets with pleomorphism (H&E, 10X).



**Fig. 5** Microscopic image shows pleomorphic tumor cells (H&E, 40X).

smoking and alcohol intake.<sup>8</sup> The commonest site of involvement is the true vocal cord and anterior commissure.<sup>9</sup> The majority of patients present with dysphonia, dysphagia, and airway obstruction.<sup>10</sup>

Thompson et al described the tumor macroscopically as polypoidal with a mean size of 2.1 cm. Of the 187 cases they studied, only two were noted as sessile or ulcerated.<sup>3</sup>

Microscopically, sarcomatoid SCC shows a combination of a malignant mesenchymal spindle cell component in a homologous or heterologous pattern along with a surface squamous cell component.<sup>11</sup> Epithelial and mesenchymal

components are presented in the nested form, with spindle components constituting the majority of the tumor.<sup>9</sup>

As it is a rare entity, there is no clear consensus regarding the management of sarcomatoid squamous cell carcinoma. Radiotherapy can be used as a single treatment technique for sarcomatoid carcinoma.<sup>8</sup> However, mesenchymal cells are usually not sensitive to radiotherapy, so it is combined with surgical techniques to reduce the local recurrence rate.<sup>12</sup> The treatment protocol we followed is radical radiotherapy, as it was a T1 glottic carcinoma. The patient had an excellent response to radiotherapy.

The prognosis of the disease depends on the T stage, lymph node metastasis, and tumor location. The overall survival rate is better for the T1 stage than for T2 and T3.<sup>3</sup> The survival rate with stage T 1 is higher compared with other stages. The 5-year survival rate is 80% for sarcomatoid squamous cell carcinoma, whereas 84% for squamous cell carcinoma.<sup>13</sup> For other stages (II-IV), the 5-year overall survival rates were 43% for sarcomatoid tumors, and 51% for squamous cell carcinomas. Even though the sarcomatoid SCC is highly malignant, the prognosis is good because of the location on the vocal cord, resulting in early presentation.

## Conclusion

Sarcomatoid or spindle cell carcinoma is a rare variant of squamous cell carcinoma, which is more commonly seen on the vocal folds. Histologically, it demonstrates both spindle and squamous cell components. The best treatment modality is surgery followed by radical Radiotherapy. However, in early-stage, radiotherapy gives good results. Even though the sarcomatoid SCC is highly malignant, the prognosis is good because of the location on the vocal cord resulting in early presentation.

## Conflict of Interest

None declared.

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