Case Report

Endoscopic CO(2) Laser Horizontal Partial Laryngectomy in Larynx Carcinosarcoma

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Background. Carcinosarcoma is an extremely rare malignant neoplasm, with both a malignant epithelial and mesenchymal component, that rarely affects the larynx. Aim. Aim of this paper is to describe the case of a patient affected by a larynx carcinosarcoma treated by endoscopic horizontal partial laryngectomy with CO(2) laser and particularly discuss the histogenetic hypothesis as well as the possible treatment modalities of this rare lesion. Methods. Case report and literature review. Discussion and Conclusion. Still little is known about the biology of carcinosarcoma and there is still no consensus in the literature on the treatment of these tumors. Endoscopic horizontal partial laryngectomy could represent another treatment option in selected cases.

1. Introduction

Carcinosarcoma is a malignant tumor with both a malignant epithelial and mesenchymal component. Most reported cases occurred in the major salivary glands; other reported sites are larynx and pharynx and, less frequently, oral and nasal cavities and esophagus [1–5].

Carcinosarcoma of larynx and hypopharynx represents less than 1% of all malignant tumors [6]. Reported risk factors are those of squamous cell carcinoma (i.e., smoking and alcoholism), as well as exposure to radiation. The classic clinical presentation features of the larynx carcinosarcoma are dysphonia and eventually dyspnea due to laryngeal obstruction [7].

The histogenesis of carcinosarcoma is controversial: its origin has been ascribed to the differentiation of primitive blastic mesenchymal cells. At diagnosis, a true carcinosarcoma exhibits a malignant mesenchymal component (sarcoma), as well as an epithelial component (carcinoma or adenocarcinoma). The histologic exam often reveals the presence of pleomorphic cells and atypical mitosis.

Most of the cases of laryngeal carcinosarcoma have been treated with laryngectomy. Only in few cases organ preservation has been achieved by partial laryngectomy with external cervical approach [8, 9].

In this paper we describe a case of larynx carcinosarcoma treated by endoscopic laser CO(2) horizontal partial laryngectomy.

2. Case Report

A 61-year-old woman complaining from dysphagia for 6 months as well as dysphonia and dyspnea for 2 months was referred to the ENT Department at the University Hospital of Ferrara in April 2012. The patient also reported weight loss of about 5–6 pounds in the last months before. She had a history of smoking, hypertension, diabetes, hypercholesterolemia, vascular encephalopathy, and multiple vascular diseases. In particular, she underwent bilateral carotid arteries thromboendarterectomy. She also had vascular surgery for aortic dissection in the previous years; the last CT angiographies also showed a dissection of the left common carotid artery (with severe lumen reduction) and several calcified atheromatous lesions of thoracic and abdominal aorta.

The ENT evaluation disclosed the presence of an epiglottic laryngeal face neoformation. No lymph nodes were
The definitive histological examination disclosed a carcinosarcoma of the entire epiglottis laryngeal side (including the petiole) with disease-free margins (pT2N0 M0, Stage II).

The postoperative course was uneventful. At 3 weeks after surgery the patient was evaluated by the multidisciplinary team and considering the histological definitive diagnosis no indications for further treatments were proposed.

A tracheoplastic surgery was performed after 3 weeks as laryngoscopy revealed regular surgical outcomes with conserved glottic space.
At the moment the patient is followed up regularly, she is disease-free at 12 months after surgery, and she is showing good functional results and a good quality of life.

3. Discussion and Conclusion

Carcinosarcoma is a rare malignant tumour with both carcinomatous and sarcomatous components. It is difficult to assess the true incidence of this pathological entity, even if it has been estimated that carcinosarcoma of larynx and hypopharynx represents less than 1% of all malignant tumours [6], and both sexes are equally affected.

According to the World Health Organization (WHO) classification [12], three different subtypes of malignant mixed tumours can be identified: carcinoma ex-pleomorphic adenoma, metastasizing mixed tumor, and carcinosarcoma [13, 14]. In carcinoma ex-pleomorphic adenoma, the epithelial component only becomes malignant (thus developing an adenocarcinoma), while in metastasizing mixed tumor and carcinosarcoma, or true malignant mixed tumor, there is a dual malignant component (carcinomatous and sarcomatous) which are therefore considered biphasic [15, 16].

Concerning the localization of carcinosarcomas, major salivary glands are the most frequent sites reported in head and neck, whereas other sites such as nasal and oral cavity, nasopharynx, bronchus, lung, and trachea are rare, and larynx is considered even more rare [1–5, 17]. The clinical presentation of laryngeal carcinosarcoma is similar to that of other laryngeal carcinomas [18], with dysphonia, dyspnoea, and dysphagia as the most frequent symptoms reported.

There is no consensus about the best treatment options for carcinosarcoma; however surgical excision with wide margins is the most recommended treatment [17, 18]. The specific therapeutic approach should be anyway tailored to the tumor stage, localization, and size.

In the case presented a supraglottic horizontal laryngectomy was performed endoscopically with laser CO(2). It has already been reported that the effectiveness of endoscopic laser horizontal laryngectomy is similar to the external approach in terms of oncological outcome (as the surgical margins were disease-free) and functional results, in case of supraglottic laryngeal squamous cell carcinoma [19]. However to our knowledge this is the first case of laryngeal carcinosarcoma that has been treated endoscopically. We decided not to proceed with a prophylactic neck dissection, due to (i) the general health problems of the patient, in particular the high neck vascular impairment (that represented a strong contraindication to a neck dissection), (ii) the laryngeal cancer stage (T2NOMO), and (iii) the definitive histologic diagnosis.

However, the patient is under strict clinical (endoscopic) and radiologic (echographic and/or CT-PET) followup and presently is without evidence of disease.

On radiotherapy there is no consensus in the literature as the mesenchymal component is reported to be resistant to irradiation [12].

The prognosis of carcinosarcoma is also controversial [12], and it is reported to be worse than that of squamous cell laryngeal carcinoma [12]. Nonetheless, due to the extraordinarily rare incidence of this tumor, it will be essential to acquire more information on its biological behaviour, so that appropriate treatment modalities can be defined.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

References


