■ CASE STUDIES

Laryngeal Adenocarcinoma: Case Report

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Laryngeal adenocarcinomas are extremely unusual (only 0.35%-0.5% of all laryngeal malignancies). It usually behaves as a highly malignant tumour, with tendency for local lymph node and distant organ metastases. We report a case of a 64-year-old man with an adenocarcinoma of the larynx with cervical lymph node involvement at the moment of the diagnosis. The patient was treated with surgery (total laryngectomy and cervical lymph node dissection) and post-operative radiotherapy. Seven months later, the patient had a local recurrence.

Key words: Adenocarcinoma. Metastatic adenocarcinoma. Larynx. Malignant laryngeal neoplasms.

Adenocarcinoma de laringe: presentación de un caso
El adenocarcinoma de laringe es un tipo de tumor muy infrecuente, que supone sólo un 0,35-0,5% de las neoplasias laríngeas malignas. Se caracteriza por su elevada agresividad y por su tendencia a producir metástasis en los ganglios linfáticos regionales y a distancia. Presentamos el caso de un varón de 64 años de edad con un adenocarcinoma de laringe con metástasis ganglionares en el momento del diagnóstico. Fue tratado con una combinación de cirugía y radioterapia postoperatoria. Siete meses después presentó recidiva regional.

Palabras clave: Adenocarcinoma. Adenocarcinoma metastásico. Laringe. Neoplasias laríngeas malignas.

CASE STUDY

Male, 64 years of age, heavy smoker, and considerable alcohol intake with a history of right frontal parasagittal meningothelial meningioma 6 years previously and a squamous cell carcinoma of the tongue (stage pT2 N0 M0) 2 years earlier, treated with left hemiglossectomy and functional dissection of the ipsilateral cervical lymph node. At one of the follow-ups for the lingual carcinoma, the patient reported progressive dyspnoea in recent weeks. The physical examination revealed a sub-mentonian nodule on which a fine-needle aspiration biopsy was performed, with the result of carcinoma. The adenopathy was subsequently excised and the histopathological report showed matastatic adenocarcinoma.

Since this was a different neoplasm, the search was started for a primary tumour, probably originating in the gastrointestinal tract. Digestive endoscopy highlighted a 3 cm tumour at the level of the pharynx and larynx, whereas the rest of the digestive tube was normal. During the performance of the endoscopy, the patient complained of dyspnoea and it was necessary to effect an emergency tracheotomy. At that moment, the patient was referred to the otorhinolaryngological department of our hospital. The examination revealed a very bulky excrescent lesion occupying practically all the laryngeal lumen and spreading to the inner wall of both pyriform sinuses. The vocal cords remained mobile. In addition, it was possible to palpate a mass of adenopathies in the right supraclavicular region, as well as a sub-mentonian induration.

The computerized tomography showed a tumour located in the supraglottic region, spreading into the hypopharynx.

An endocavitary examination was performed under general anaesthesia and the biopsies taken showed a moderately differentiated adenocarcinoma.

The patient was next subjected to a surgical procedure comprising total laryngectomy with partial pharyngectomy, accompanied by radical dissection of the right cervical lymph node. It was possible to effect a primary closure, without the need for reconstruction with flaps, and the patient currently retains an acceptable capacity for swallowing, making gastrostomy unnecessary.

In the gross examination of the surgical specimen, the most noteworthy is a neoformation with an ulcerated surface,

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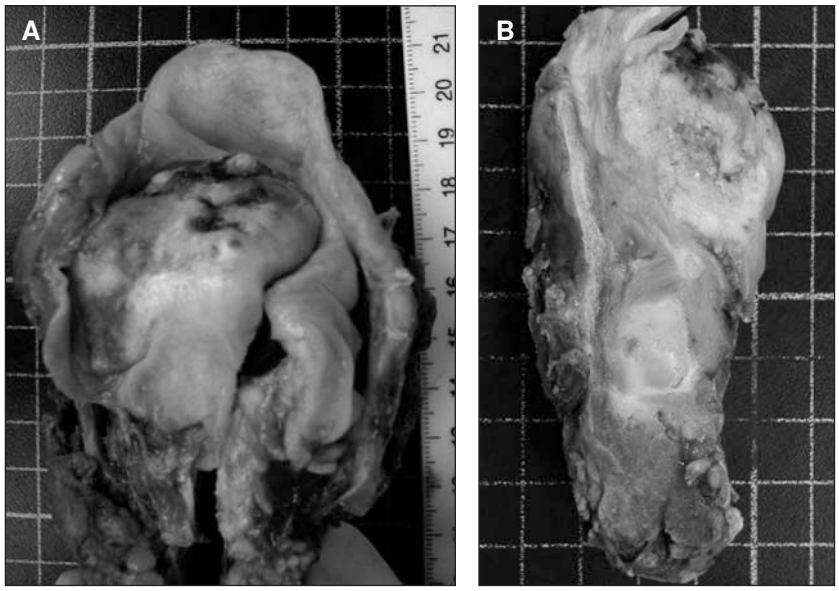

Figure 1. Appearance of the surgical specimen, externally (A) and after being opened (B), with a large mass of neoplastic appearance noticeable.

markedly congestive and discreetly indurated, occupying all the supraglottic region and spreading into the left pyriform sinus (Figure 1), with a maximum diameter of 3.5 cm. The histopathological study revealed a malignant epithelial neoplasm, with clear glandular differentiation in all the sections studied, with extensive infiltration of the soft tissues of the larynx (Figure 2). The neoplastic cells are polygonal in shape, with poorly defined outlines and eosinophilic cytoplasm. The nuclei are located in the base of the cells and are moderately atypical, with a striking nucleole. PAS staining revealed abundant mucus, both intracellular and extracellular. It is easy to find areas of necrosis, normally with abundant neutrophilic polymorph nuclei and cellular detritus. After studying multiple histological sections, it has not been possible to show areas with squamous differentiation. The superficial squamous epithelium did not reveal any dysplasic traits but was under compression by the tumour and, in areas where it was retained, it had an atrophic appearance. It was not possible to show any transition between normal mucosa and the malignant tumorous epithelium, as the latter replaced in the former in many areas. The immunehistochemical study showed staining in the neoplastic cells with antibodies for cytokeratin AE1-AE3 (Dako Cytomation), cytokeratin CAM 5.2 (Becton Dickinson), cytokeratin 20 (Dako Cytomation), CEA (Dako Cytomation), chromogranin (Novocastra), and MOC-31 (Dako Cytomation). On the other hand, staining was negative for cytokeratin 7 (Dako Cytomation), synaptophysin (Biogenex), vimentin (Biogenex), c-kit (Dako Cytomation), enolase (Dako Cytomation), TTF-1 (Dako Cytomation), and S-100 protein (Dako Cytomation).

Two of the 11 cervical lymph nodes isolated in the dissection showed metastases due to adenocarcinoma, so the staging was pT2 pN2b M0 (stage IV). The patient later received coadjuvant radiation therapy, with a total dose of 5600 cGy. Seven months after completing the complementary treatment, he was diagnosed as having a cervical relapse but its complete surgical removal was not possible as the neoplastic tissue surrounded the left internal carotid artery and the tracheostoma. A year and a half after diagnosis, he is currently receiving palliative treatment.

DISCUSSION

The various types of laryngeal adenocarcinoma represent less than 1% of all laryngeal carcinomas.[1] The most extensive review is that by Bloom et al[2] which distinguishes 3 histological varieties, of which the most frequent is "non-specific adenocarcinoma" (45%), followed by cystic adenoid carcinoma (30%) and mucoepidermoid carcinoma (15%). Its origin may lie in the seromucosal glands located in the submucosa of the larynx. In this sense, it has been pointed out that the predominant locations are the supraglottic and subglottic regions,[2,3] a topographical distribution that could be explained by the differing distribution and concentration of minor salivary glands in the different regions of the larynx,[3] larger in the areas mentioned whereas their number is much smaller in the true vocal cords, the site of choice for squamous cell carcinoma. In addition, a predilection has been observed in each histological variety for a specific location: while the cystic adenoid carcinoma predominates in the subglottic region, the mucoepidermoid and adenocarcinoma generally arise in the supraglottic area or, less frequently, in one of the pyriform sinuses.[2,4] This has led some authors to postulate that laryngeal adenocarcinoma may be a variation on the neoplasms originating from minor salivary glands.[5] The lack of continuity with the squamous mucosa of the larynx and the absence of dysphasic traits in the latter back this opinion that this kind of tumour may originate from glands located in the submucosa. Even so, it is not possible to rule out the emergence of adenocarcinoma of the larynx, by analogy with many other malignant epithelial tumours, from a neoplastic transformation of undifferentiated cells from the surface of the epithelium.

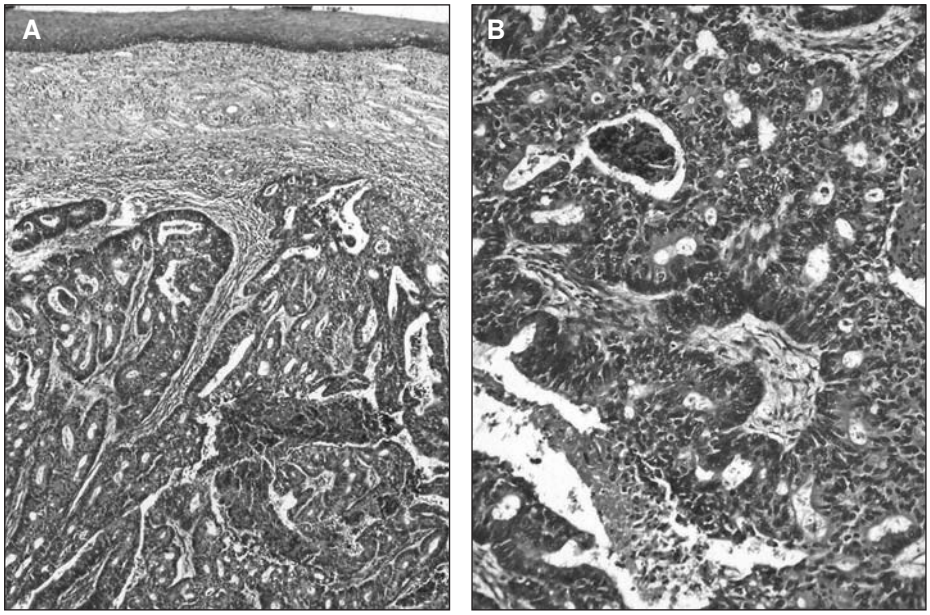

Figure 2. The tumour was located in the submucosa, without transition into the surface epithelium (A). It showed clear glandular differentiation throughout its extension (B).

Our patient shows many of the clinical and pathological characteristics normally present in laryngeal adenocarcinomas. The best characterized aetiopathogenic factor is smoking, as in our patient. They generally present in males as supraglottic lesions between the sixth and seventh decade of life, with clinical manifestations including dyspnoea, dysphonia, dysphagia, or odynophagia. These are no different from those produced by other kinds of laryngeal tumours. The extensive infiltration of soft tissues and lymph node involvement shown in our case are frequent characteristics and the diagnosis is often reached in advanced stages of the disease.[6,7] Batsakis et al[6] have pointed to a high incidence of lymph node metastases in adenocarcinomas in comparison with cystic adenoid carcinoma, constraining poor prognosis among the first group: almost all patients with adenocarcinoma of the larynx die in the first 2 years following diagnosis. For his part, Mahlsted[8] obtained 5-year survival rates of 80% for mucoepidermoid carcinoma and 33% for cystic adenoid carcinoma, whereas in the case of adenocarcinoma it was only 25%. In our case, the patient presented a regional relapse during the first year of follow-up, which could not be resected, and is currently receiving palliative treatment.

With regard to treatment, it is difficult to establish definitive therapeutic indications due to the rarity of these tumours, but most authors recommend an aggressive attitude with surgical resection via total laryngectomy and cervical dissection or a combination of surgery and radiation therapy. Even so, since the adenocarcinoma has a predilection for the supraglottic region, it is possible that, in certain cases, a partial laryngectomy may be performed.[5,9] Although experience with radiation therapy in glandular carcinomas of the larynx is much less than with surgical measures, Alavi et al,[5] after reviewing 12 cases, propose the use of post-operative radiation therapy particularly in cases where the surgical margins are proximal or when there are regional metastases. Other authors, however, also recommend it in advanced stages and/or with a high grade.[10]

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