ANNALES
UNIVERSITATIS MARIE CURIE-SKŁODOWSKA
LUBLIN-POLONIA
VOL. LVIII, N 2, 128 SECTIO D 2003

Department of Otolaryngology, Head and Neck Surgery, Medical University of Lublin
Department of Clinical Pathology, Medical University of Lublin

KAMAL MORSHED, MARCIN SZYMAŃSKI,
AGNIESZKA BAKOŃSKA, MAGDALENA KOTARSKA,
JAROSŁAW KORZAN

Carcinosarcoma of the larynx

Squamous cell carcinoma is the most frequent malignancy of the larynx. It constituts about 90% of laryngeal malignant tumours (8). Carcinosarcoma of the larynx is a rare and aggressive malignancy (6,12). This tumour is described in the literature as sarcomatoid carcinoma, a variant of squamous cell carcinoma with fused cells, pseudoscarcoma, pleumorphous carcinoma, polypoid carcinoma, metaplastic carcinoma and spindle cell carcinoma. Carcinosarcoma is a tumour composed of mixed epithelial and mesenchymal elements. The sarcomatous component is considered as a variant growth pattern of squamous cell carcinoma (6,12). Each of these elements shows distinct immunohistochemical and ultrastructural characteristics. We present a rare case of carcinosarcoma of the larynx.

CASE REPORT

A 77 year-old man presented with laryngeal stridor. He reported hoarseness lasting for about one year. He had not been able to speak for about 6 months. He was a heavy smoker and reported alcohol abuse. Indirect laryngoscopy showed tumour causing airway obstruction and immobile left vocal cord. Palpation and sonography revealed no enlarged neck lymph nodes. Emergency tracheotomy had to be performed. Microlaryngoscopy with biopsy showed squamous cell carcinoma of the larynx. The tumour was polypoid, oval in shape with pedicle to vocal fold. It was five cm long and 1.5 cm wide with smooth surface. The tumour stage was classified as T3 N0 M0 according to International Union Against Cancer (UICC). The patient underwent total laryngectomy (Fig. 1). The postoperative specimen was examined using hematoxin-eosin and immunohistochemistry staining (No 10721/02). The tumour showed a predominance of sarco-matous elements. Pleomorphic parts and spindle cells were highly positive for vimentin staining. Islands of squamous cells with cytokeratin expression were scattered between the sarcomatous elements. Based on morphology and immunohistochemistry the diagnosis of carcinoma fusocellulare G-3 partim necroticans (spindle cell carcinoma) was done. The patient died five days after the operation due to cardio-pulmonary insufficiency.

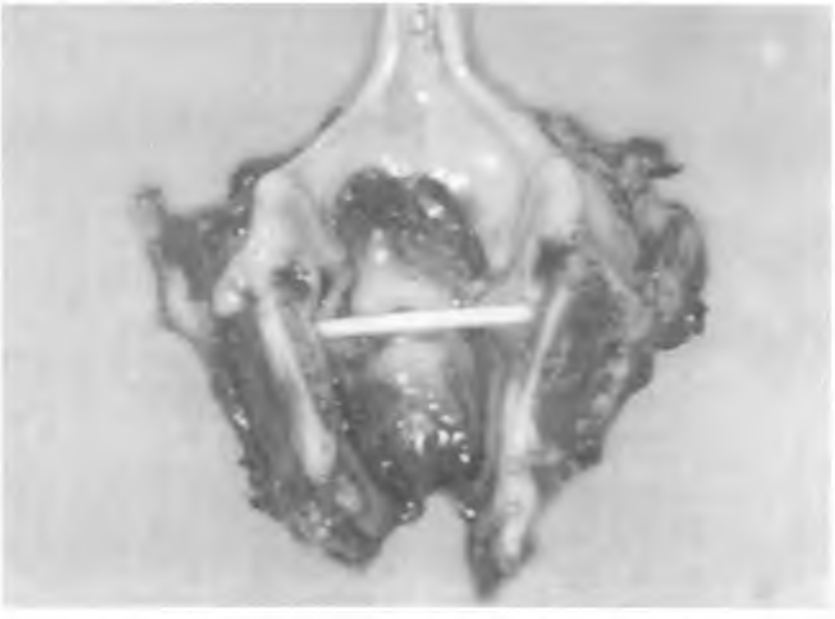

Fig. 1. Postoperative specimen of the resected tumour of the larynx

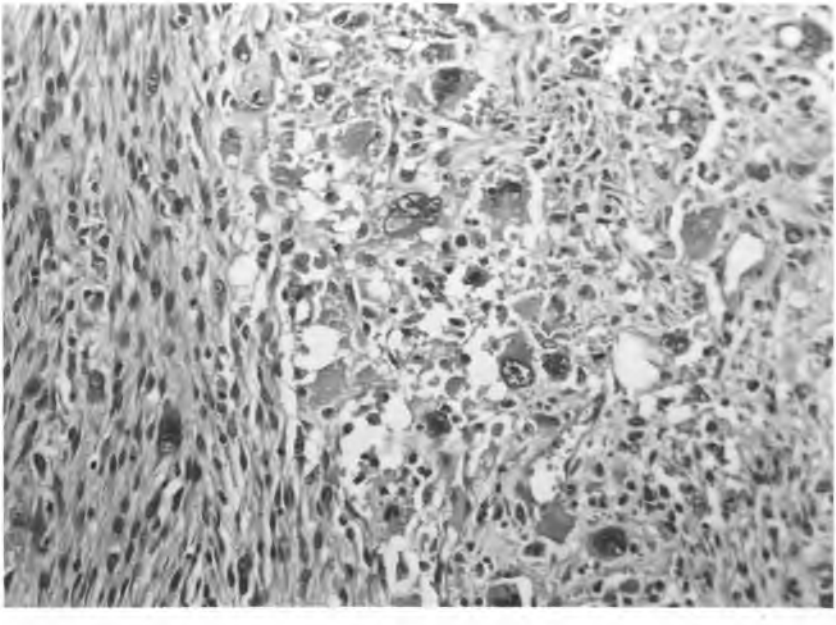

Fig. 2. Two sarcomatous components with predominantly spindle cell morphology and nuclear pleomorphism (hematoxylin-eosin). Magn. 200x

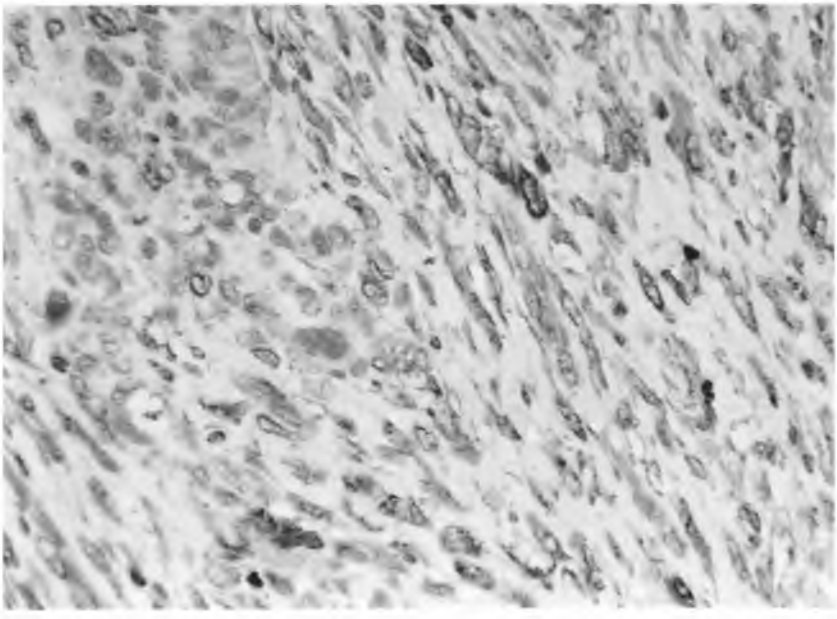

Fig. 3. Immunohistochemical staining for vimentin expression. Magn. 400x

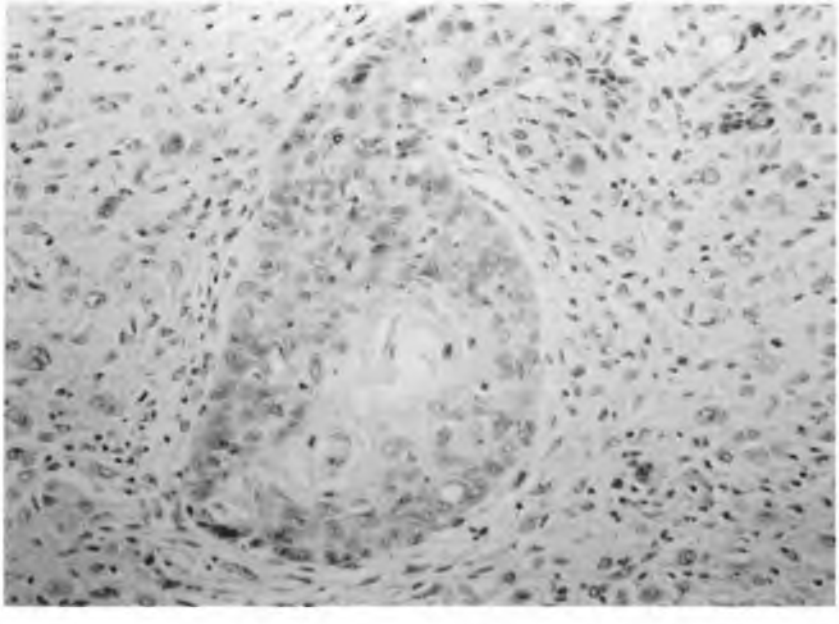

Fig. 4. Cytokeratin stain positive in squamous cell carcinoma presented between the sarcomatous component. Magn. 200 x

DISCUSSION

Carcinosarcomas are reported to occur in many organs, most frequently found in the uterus (4). The larynx is a very uncommon site of presentation of this type of tumour. It is reported in less than 1% of malignant laryngeal tumours (3,9,10,11). There is still controversy in regard of the definition and diagnosis of carcinosarcoma. Vollrath et al. (10) analysed carcinosarcomas of the larynx by means of light microscopy and immunohistology. They used a reaction with antibodies against keratin and vimentin. The same procedure confirmed the diagnosis in the presented case.

The two components, epithelial and mesenchymal, show different immunohistochemistry staining type. The carcinomatous cells are usually strongly and diffusely reactive for antibodies to cytokeratin and carcinoembryonic antigen, but negative for antibodies to vimentin, CD68, α_1-antichymotrypsin, lysozyme, SMA, desmin, estrogen receptor and progesterone receptor. The spindle cells of the sarcomatous component, on the other hand, show strong reactivity for antibody to vimentin, focal reactivity for antibodies to α_1-antichymotrypsin and cytokeratin, and no reactivity for antibodies to carcinoembryonic antigen, CD68 (3,6,7,12).

The treatment of carcinosarcoma can be surgery or radiotherapy. Ballo et al. (1) analyzed the results of primary radiation therapy for early glottic carcinosarcoma. They treated twenty-eight cases of early stage (T1-T2) carcinosarcoma of the larynx with radiotherapy. The outcome was similar to that achieved with irradiation for squamous cell carcinoma. The 5-year local control rates for patients with T1 and T2 lesions were 94% and 54%, respectively. Only one patient developed regional and distant disease. The 10-year disease-specific and overall survival rates were 92% and 63%, respectively.

The prognostic factors of carcinosarcoma of the head and neck are controversial (6,5,12). Levinton et al. (5) showed that the prognosis is closely related to the depth of invasion. On the other hand, Ellis et al. (2) reported that no histomorphologic features, including the depth of invasion, was a reliable prognostic indicator in carcinosarcoma of the oral cavity.

REFERENCES

1. Ballo M. T., Zagars G. K., Pollack A.: Radiation therapy for early stage (T1-T2) sarcomatoid carcinoma of true vocal cords: outcomes and patterns of failure. Laryngoscope, 108, 5, 760, 1998.
2. Ellis G.L. et al.: Spindle cell carcinoma of the oral cavity: a clinicopathologic assessment of fifty-nine cases. Oral Surg., 50, 523, 1980.
3. Ianniello F. et al.: Carcinosarcoma of the larynx: immunohistochemical study, clinical considerations, therapeutic strategies. Acta Otorhinolaryngol. Ital., 21, 3, 192, 2001.
4. Iwasa Y. et al.: Prognostic factors in uterine carcinosarcoma: a clinicopathologic study of 25 patients. Cancer, 1, 82, 3, 512, 1998.
5. Levinton G.S. et al.: Sarcomatoid squamous cell carcinoma of the mucous membranes of the head and neck: a clinicopathologic study of 20 cases. Cancer, 48, 994, 1981.
6. McClatchey, KD et al.: Spindle-cell carcinoma. In: S. S. Sternberg (eds.), Diagnostic Surgical Pathology. 3rd ed., Lippincott Williams & Wilkins, New York 1999.
7. Ro J. Y. et al.: Sarcomatoid bladder carcinoma: clinicopathologic and immunohistochemical study of 44 cases. Surg. Pathol, 1, 359, 1994.
8. Schwartz M. R.: Pathology in laryngeal tumors. In: Comprehensive Mangament of Head and Neck Tumors. Red. S. E. Thawley et al., Saunders Camp., Philadelphia 1999.
9. Srinivasan U., Talvalkar G. V.: True carcinosarcoma of the larynx: a case report. J. Laryngol. Otol., 93, 10, 1031, 1979.

10. Vollrath M., Osborn M., Altmannsberger M.: Immunohistological demonstration of the intermediate filaments in a laryngeal carcinosarcoma: considerations on its histogenesis. Laryngol. Rhinol. Otol., 66, 6, 307, 1987.
11. Wang J., Hu Y., Zhang C.: Carcinosarcoma of the larynx (with a case report). Lin Chuang Er Bi Yan Hou Ke Za Zhi, 12, 6, 269, 1998.
12. Weinder N.: Sarcomatoid carcinoma of the upper aerodigestive tract. Semin. Diagn. Pathol., 4, 157, 1987.

SUMMARY

Carcinosarcoma is a rare laryngeal malignance. A case of laryngeal carcinosarcoma in a 77-year-old patient is presented. Diagnostic difficulties, histopatology and immunohistochemistry features results are reviewed. Clinical course and therapy in laryngeal carcinosarcoma are described.

Mięsakorak krtani

Mięsakorak (*carcinosarcoma*) jest rzadkim nowotworem złośliwym, występującym w krtani. Przedstawiamy przypadek 77-letniego mężczyzny z rozpoznaniem mięsakoraka. Opisujemy trudności diagnostyczne, cechy histopatologiczne i immunohistochemiczne oraz metody leczenia chorych z mięsakorakiem.