Subglottic Spindle Cell Carcinoma: An uncommon localization of a rare laryngeal tumour

SUBGLOTTİK YERLEŞİMLİ SPINDLE HÜCRELİ KARSİNOM: NADİR LARİNGEAL TÜMÖRÜN SEYREK GÖRÜLEN BİR LOKALİZASYONU

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Summary

Subglottic larynx is a very rare localization for spindle cell carcinoma. An 84-year-old man with one-year history of hoarseness and dyspnoea was presented. Laryngoendoscopic examination revealed a limited subglottic mass. Pathologic investigation showed spindle cell carcinoma after excisional biopsy. There was neither neck nor distant metastasis ($T_1N_0M_0$). Regarding his age and the stage (Stage 1) of the tumour, radiotherapy was initiated. He is still alive and free of disease after 12 months of radiation therapy.

Key Words: Spindle cell, Larynx, Neoplasm

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Özet

Subglottik larinks, spindle hücreli karsinoma için çok nadir bir lokalizasyondur. Bu çalışmada 1 yıldır ses kısıklığı ve nefes darlığı şikayetleri olan 84 yaşındaki erkek olgu sunuldu. Endoskopik larinks muayenesinde subglottik yerleşimli, sınırlı bir kitle saptandı. Eksizyonel biyopsi sonrasında yapılan patolojik inceleme ile spindle hücreli karsinoma tanısı konuldu. Boyun ya da uzak organ metastazı yoktu ($T_1N_0M_0$). Olgunun yaşı ve tümörün evresi (Stage1) göz önüne alınarak radyoterapi uygulandı. Olgu, radyasyon tedavisinden 12 ay sonra hala sağ ve hastalıksızdır.

Anahtar Kelimeler: Spindle hücre, Larinks, Kanser

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Spindle cell carcinoma of the larynx is a rare and high-grade malignancy. It constitutes less than 1% of laryngeal malignancies (1). It usually presents in elderly male smokers. It is also known as carcinosarcoma, pseudosarcoma, pleomorphic carcinoma, sarcomatoid carcinoma, and pseudosarcomatous carcinoma (2). Spindle cell carcinoma is usually polypoid. Nevertheless it may be infiltrative or exophytic (1). It is presumed to be epithelial in origin and to have prominent spindle cell morphologic features. Squamous and spindle cell components give characteristics to this tumour (3). Squamous elements of these tumours can metastasise like squamous cell carcinoma, although spindle cell elements may spread to the cervical nodes, viscera, or lungs (4). Local recurrence is more likely than regional metastasis (1).

Case Report

An 84-year-old male, chronic smoker was admitted to the hospital with hoarseness and dyspnea with one-year history. A subglottic mass of 1.5 x 1.5 cm was seen in laryngoendoscopic examination (Figure 1). The polypoid mass, located at the right subglottis, was excised totally for histopathologic examination through direct laryngoscopy. Neither neck lymph node, nor distant metastases were found. The stage was $T_1N_0M_0$ (Stage I).

The specimen was fixed in 10% formaldehyde solution, and was embedded in paraffin with usual manner. Five micrometer- thick sections were obtained. Hematoxylin-eosin staining and immunohistochemistry with pancytokeratin (AE1/AE3) and vimentin antibodies were performed (DAKO

Figure 1. The subglottic mass seen in laryngoendoscopic examination.

Figure 2. Transition area from frankly carcinomatous cells (upper left) to sarcomatous cells (Hematoxylin- eosin, x100).

Figure 3. Diffuse vimentin positivity of sarcomatous areas (Streptavidin- viotin, DAB, x100).

Figure 4. Scattered cytokeratin positivity in spindle- shaped cells (Streptavidin- biotin, DAB, x100).

kit; DAB chromogen). The surface of the tumour was covered with squamous epithelium exhibiting striking neoplastic features, in some areas these cells were admixed with spindle cells (Figure 2). The bulk of the tissue consisted of spindle-shaped neoplastic cells, which positively stained with vimentin diffusely (Figure 3), and with cytokeratin focally (Figure 4).

Regarding the age of the patient and the stage of the tumour, curative radiotherapy was deemed suitable. Radiation therapy was initiated. He is still alive 12 months after radiation therapy.

Discussion

Spindle cell carcinomas are very rare neoplasms in the upper respiratory tract, presenting predominantly in the larynx and pharynx (5). As in our case, men are affected more frequently than women (5). It is seen usually in elderly. The use of tobacco products seem to be the predisposing factor in our case as indicated in the literature (1).

Spindle cell carcinoma displays squamous cell carcinoma and pseudosarcomatous areas together. Histological manifestation can be variable because of cellular pleomorphism and mitotic activity (6). It is basically of epithelial origin with differentiation or transformation to spindle cell morphology (7). Modern techniques, such as electron microscopy and immunohistochemistry, support this hypothesis. Hellquist et al. (8) reported that all their cases investigated by electron microscopy showed that the spindle cells had some epithelial character-

istics. Immunoperoxidase study demonstrates keratin staining in the sarcomatous component of the tumour (9). Grossl et al. (10) reported positive cytokeratin staining not only in the spindle cells but also in the squamous cells. In our case, some of the spindle-shaped neoplastic cells stained positively with cytokeratin. According to Grossl, vimentin was stained positively only in the spindle cells. However, Lewis et al. (7) reported that vimentin was positive in all their cases like ours.

Laryngeal pseudosarcomas are commonly presented as a polypoid glottic mass (7, 11, 12). Nevertheless, in our case, the polypoid mass was located in the subglottic region. Subglottic localisation is extremely rare comparing with the other localizations. There were only 7 cases of subglottic spindle cell carcinoma reported in the scientific medical literature up to now (2, 7, 8, 11, 13). Lambert et al. (11) reviewed the literature and reported that just 2% of all upper respiratory tract pseudosarcomas were found in the subglottic area.

Spindle cell carcinoma may demonstrate a more aggressive clinical course than squamous carcinomas (14). However, Lambert et al. (11) reported a three-year survival rate of 90%. The poor prognosis depends on localization, size of the tumour, metastasis, and prior history of radiotherapy (2). Laryngeal localization has better prognosis than hypopharyngeal localisation (2). The case presented had nor metastasis, neither history of prior radiotherapy at the time of diagnosis which implies good prognosis.

The clinical approach to spindle cell carcinomas must be similar to that for epithelial malignancies (2). Surgical therapy is accepted as the primary mode of treatment (2, 11). Some authors recommend radiation therapy for early spindle cell carcinomas of the glottic larynx, as in squamous cell carcinoma (15). Our patient was staged according to the American Joint Committee on Cancer TNM system (16). He had T_1 subglottic tumour with negative node and no distant metastasis. Due to the age of the patient and the stage of the tumour, curative radiotherapy was considered to be better treatment modality for our case.

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