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CASE REPORT

Basaloid squamous cell carcinoma of the larynx: a case report

Larenksin bazaloid yassı epitel hücreli karsinomu: Olgu sunumu

Özmen ÖZTÜRK, M.D.,[1] Murat SARI, M.D.,[1] Selçuk İNANLI, M.D.,[1] Esin KOTİLOĞLU-KARA, M.D.[2]

Basaloid squamous cell carcinoma (SCC) is a very rare, high grade, and aggressive variant of SCC, with a predilection for the upper aerodigestive system. Treatment should include surgery of the primary tumor and dissection of the cervical lymph nodes, followed by radiotherapy. We present a 50-year-old man with basaloid SCC of the supraglottic larynx, which was initially misdiagnosed as SCC. Supraglottic laryngectomy with bilateral radical neck dissection was performed, and radiotherapy was applied postoperatively. During a follow-up of 26 months, no evidence for recurrence was found. Basaloid SCC should be considered in the differential diagnosis of upper aerodigestive system malignancies because it has a distinct prognostic significance compared to conventional SCC.

Key Words: Carcinoma, basosquamous/surgery; carcinoma, squamous cell/pathology; diagnosis, differential; laryngeal neoplasms/surgery.

Larenksin bazaloid yassı epitel hücreli karsinomu (YEHK), bu karsinomun nadir rastlanan, yüksek evreli ve agresif seyirli bir türüdür ve daha çok üst solunum ve sindirim sistemleri tutulumu görülmektedir. Tedavi, primer tümörün cerrahisi ve servikal lenf nodlarının diseksiyonunu ve ardından radyoterapidir. Bu yazıda, ilk tanısı YEHK olarak hatalı bildirilen, daha sonra supraglottik larenksin bazaloid YEHK tanısı konan 50 yaşında bir erkek hasta sunuldu. Hastaya supraglottik larenjektomi ve iki taraflı radikal boyun diseksiyonu uygulandı ve ameliyat sonrası dönemde radyoterapi verildi. Yirmi altı aylık izlem sırasında nükse rastlanmadı. Üst solunum ve sindirim sistemlerine ait tümörlerin ayırıcı tanısında bazaloid YEHK, YEHK'den farklı prognozu ile önem taşımaktadır.

Anahtar Sözcükler: Karsinom, bazoskuamöz/cerrahi; karsinom, yassı epitel hücreli/patoloji; ayırıcı tanı; larenks neoplazileri/cerrahi.

The most common histologic malignancy of the head and neck region is the squamous cell carcinoma (SCC).[1] Basaloid squamous cell carcinoma (BSCC) is a biphasic and high grade histological variant of SCC with distinct morphological and biological features. Wain et al.[2] first identified this rare variant, and accurately described 10 cases in the upper aerodigestive tract in 1986. In 1991, "The World Health Organization" has recognized this variant.[3]

BSCC has a strong predilection for the upper aerodigestive system.[2,4,5] Since its first description, BSCC has been described in various head and neck sites such as larynx, hypopharynx, tongue, floor of mouth, tonsils, palate, buccal cavity, nasopharynx, sinonasal tract and trachea.[4-11]

BSCC arises from totipotential primitive cells in the basal layer of the surface epithelium or from the salivary duct lining epithelium.[2] It is histologically

◆ *Departments [1]Otolaryngology and [2]Pathology, Medicine Faculty of Marmara University (Marmara Üniversitesi Tıp Fakültesi Hastanesi, [1]KBB Hastalıkları ve Baş-Boyun Cerrahisi Anabilim Dalı, [2]Patoloji Anabilim Dalı), İstanbul, Turkey.*

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◆ *Correspondence (İletişim adresi): Dr. Özmen Öztürk. Marmara Üniversitesi Tıp Fakültesi Hastanesi, KBB Hastalıkları ve Baş-Boyun Cerrahisi Anabilim Dalı, Tophanelioğlu Cad., No: 13/15, 34150 Altunizade, İstanbul, Turkey. Tel: +90 216 - 327 82 93 Fax (Faks): +90 326 96 37 e-mail (e-posta): ozturkmarmara@hotmail.com*

characterized by nests of small basaloid cells with hyperchromatic nuclei, scant cytoplasm, and brisk mitotic activity, with the cells showing peripheral palisading.[2,4,12]

Treatment should include surgery of the primary tumor and dissection of the cervical lymph nodes, followed by radiotherapy.[4,12] Prognosis is regarded to be poor.[2,4,5,13,14]

In this report, we present a single case of BSCC of the supraglottic larynx, and analyze the clinical course and histopathological aspects of this tumor.

CASE REPORT

A 50-year-old male patient was referred to our clinic with dysphonia and progressive dysphagia since one month. His past medical history was significant for heavy smoking. The patient denied alcohol abuse and any consumption of drugs. His family history was unremarkable.

Physical examination revealed irregular vegetative mass at the left side of laryngeal surface of the epiglottis with an extension to the left ventricular fold. The anterior commissure was intact. Other laryngeal structures and the remaining otorhinolaryngologic examination were normal. There was no palpable cervical lympadenopathy.

The preoperative cervical computerized tomography (CT) showed an epiglottic mass of 3x3 cm extending from the laryngeal surface of the epiglottis to the left ventricular fold and aryepiglottic fold. The neck was free of lymphadenopathy. Thorax CT was detected to be normal. Routine laboratory tests and liver function tests were all within normal limits.

After having biopsy in the direct laryngoscopic examination, the tumor at the left side of laryngeal surface of the epiglottis with an extension to the left ventricular fold was histopathologically diagnosed as SCC. Supraglottic laryngectomy with left radical neck dissection was performed.

The histopathological examination of specimen showed nests of small basaloid cells with hyperchromatic nuclei, scant cytoplasm, and increased mitosis rate. The diagnosis was corrected to BSCC (Fig. 1 and 2a, b). Perineural invasion, extralymphatic and intravascular permeation were not found. Preepiglottic space was found to be intact. Two metastatic lymph nodes out of 46 isolated were found in the left upper jugular zone (level II).

A work-up for distant metastasis with bone scintigraphy was detected to be normal. One month later right radical neck dissection was performed, and one metastatic lymph node was detected out of 33 lymph nodes isolated on the right side.

The patient was discharged and external beam radiation (66 Gy) was administered. His last follow-up at 26 months revealed no evidence of disease.

DISCUSSION

BSCC is a histologically high-grade and distinct variant of SCC. This uncommon tumor has a strong

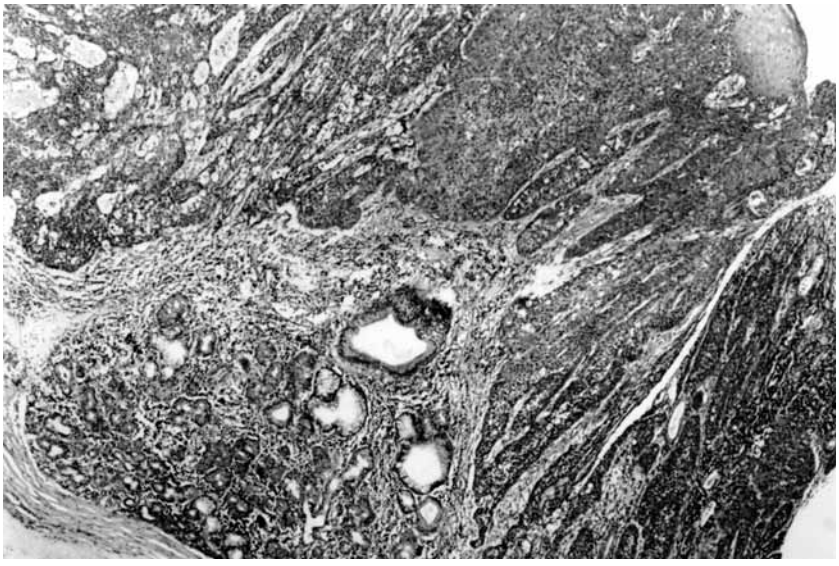

Fig. 1 - *The proliferated basaloid component of the epithelium exhibits nuclear palisading (H-E, original magnification x 200).*

predilection for the larynx and hypopharynx.[2,4-7,15] Other head and neck sites include tonsils, tongue, palate, buccal cavity, floor of the mouth, nasopharynx, trachea, and sinonasal tract.[8-11]

Upper aerodigestive BSCC affects men more than women, and typically occurs in an older population with a history of smoking and/or alcohol abuse.[4,5] Wan et al.[8] found that Ebstein-Barr virus (EBV) may play a role in the development of nasopharyngeal BSCC. It is still indistinct whether EBV and HPV are casual or contributory factors in nasopharyngeal BSCC.

Macroscopically, BSCC appears as an exophytic, polypoid, firm to hard, but poorly defined mass with central surface ulceration.[1,4,12] It is difficult to differentiate the physical characteristics of BSCC from those of conventional SCC.[1,4]

BSCC originate from the surface epithelium. Microscopically, it is a carcinoma composed of a dual population of cells with a basaloid component, closely related with a squamous carcinoma pattern.[4,12] The basaloid component consists of a glandular structure with growths of small, crowded cells arranged in a lobular pattern closely opposed to the surface mucosa.[2,4,5,12] These cells have dark hyperchromatic nuclei, sometimes with nucleoli and scant cytoplasm. Small cystic spaces containing mucinous-like material are interspersed within the lobules. Small and large foci of coagulative necrosis within the central areas (comedo necrosis) of these

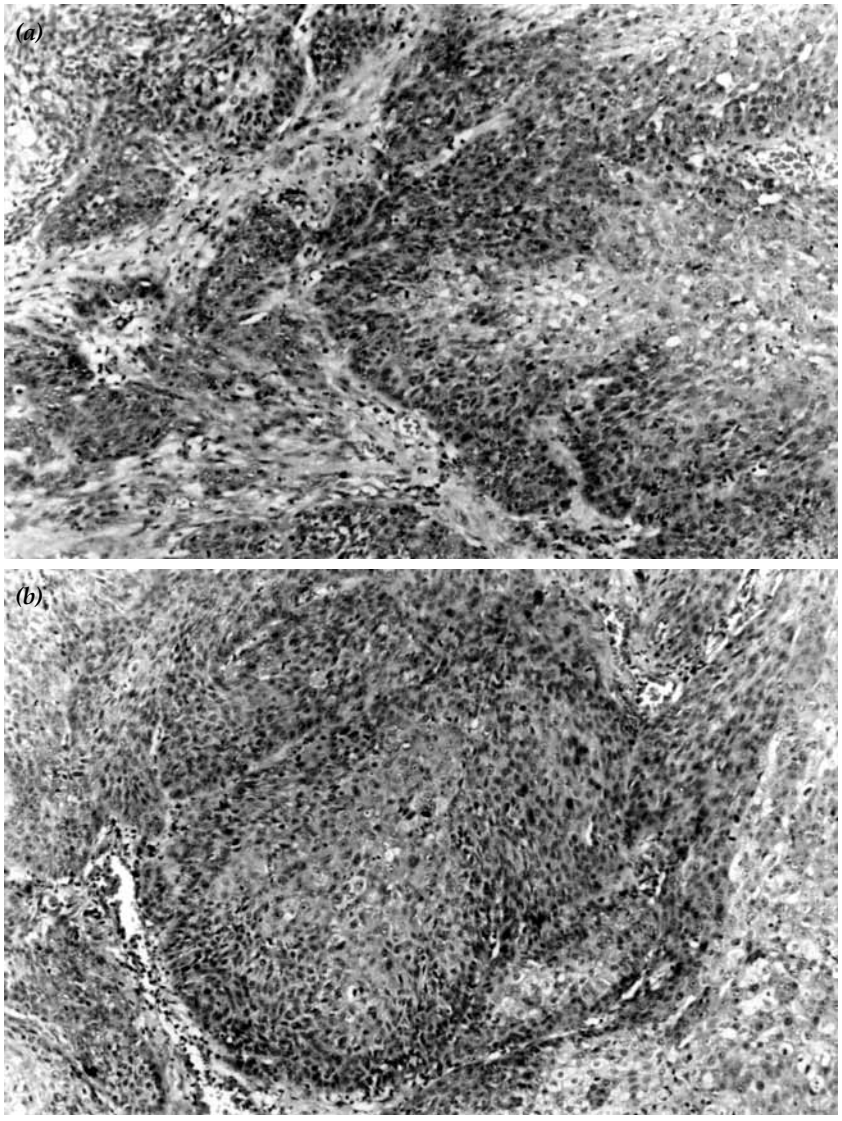

Fig. 2 - ***(a)*** *Conventional squamous cell carcinoma presents in combination with basaloid patterns (H-E, original magnification x 200).* ***(b)*** *Histologic aspect of basaloid squamous cell carcinoma (H-E, original magnification x 400).*

lobules is seen regularly. Other findings can include focal stromal hyalinization, lymphovascular permeation and perineural involvement.

Closely associated with this basaloid component is either frank invasive squamous cell carcinoma or foci of squamous dysplasia.[2,4,5,12] The squamous component is generally well or moderately differentiated, and can be superficially invasive. An abrupt transition between the basaloid component and the keratin pearls can also be present. The pathological features of BSCC (nuclear pleomorphism, hyperchromasia, mitotic activity, and necrosis) indicate a high-grade malignancy.[5]

BSCC is considered as a biologically high grade aggressive malignancy, often with an advanced clinical stage disease at presentation and low survival rate.[2,4,12-14] The tumors are often extensively invasive, and may be multifocal or metastasize widely even at the initial presentation.[2,4,5,12-14] BSCC has a high incidence of cervical lymph node metastases and distant metastases such as to the lung, liver, bone, brain, skin and brain.[2,4,5,7,12-14] Metastases include both basaloid and squamous components.[4] BSCC may be associated with a high incidence of second primary tumors in the upper gastrointestinal tract.[4] In our patient, investigation of the upper aerodigestive tract revealed no other malignancies.

Because the cellular composition of BSCC is heterozygous, establishing the correct diagnosis on biopsy may be difficult or impossible.[4-6] The tumors that resemble BSCC histologically are SCC, adenoid cystic carcinoma (ACC) (particularly the solid variant), small cell undifferentiated (neuroendocrine) carcinoma, basal cell adenocarcinoma, adenosquamous carcinoma, spindle cell carcinoma, mucoepidermoid carcinoma and adenoid squamous cell carcinoma.[1,12] Separating these tumors is important because their clinical behavior and treatment differ markedly.

The problem of histopathological diagnosis is made more difficult when dealing with very limited cytological or histological material after obtaining shallow biopsies from the tumor site.[1,4-6] Ferlito et al.,[4] reported in their 15 cases of laryngeal and hypopharyngeal BSCC that diagnosis on biopsy originally indicated SCC in 11 cases (73.33%), ACC in 2 (13.33%), and BSCC in only 2 (13.33%) cases. In our case, the initial superficial specimen was misdiagnosed as SCC.

The treatment requires aggressive multimodal approach.[4,5,7] Radical surgical excision with various neck dissections and postoperative radiotherapy is the treatment of choice.[4,5,7] For high incidence of distant metastatic disease adjuvant chemotherapy may be warranted.[4,5,7,14,16]

The clinical behavior of BSCC is more aggressive than SCC.[1,2,4,5,12] BSCC of the upper aerodigestive tract is a high grade neoplasm with a high incidence of nodal involvement at presentation, distant metastasis and uncontrollable regional recurrent disease.[2,4,7,12-14] Given the tendency for BSCC to present with disease of advanced clinical stage, the prognosis is poorer.[2,4,7,12-14] The mortality rate within the first year after diagnosis is very high.[2,4,12-14]

BSCC is a distinct and rare histopathological variant of SCC, characterized by a potential for diagnostic confusion especially when dealing with a limited biopsy material. Because this tumor bears a worse prognosis due to an aggressive biological behavior with a propensity to recurrence and metastases, BSCC merits recognition as a separate entity when planning therapy.

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