

TRANSGLOTTIC BASALOID SQUAMOUS CELL CARCINOMA OF THE LARYNX

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Abstract

Objective: To report a rare case of Transglottic Basaloid Squamous cell carcinoma of the larynx and review the pathologic features of these lesions.

Case report: A 64 year old male, heavy smoker and alcohol abuser, presented with a 6 month history of hoarseness. Laryngoscopy revealed a right transglottic lesion involving the epiglottis, aryepiglottic fold, ventricle and true vocal fold.

Microscopically, the tumor was characterized by infiltrating solid sheets of basaloid cells showing palisading pattern along the edges. In areas of solid growth, tumor cells displayed scant cytoplasm, and hyperchromatic nuclei. A portion of the tumor abutting the thyroid cartilage showed squamous differentiation. An island of tumor cells with comedonecrosis was also noted. Immunohistochemical staining for a number of markers was performed.

Conclusion: Basaloid squamous cell carcinoma displays a biphasic histology. The stage of the disease at presentation is invariably advanced with metastatic lymphadenopathy in two thirds of the patients.

Keywords: basaloid; squamous cell carcinoma; larynx.

Introduction

Basaloid squamous cell carcinoma is considered a high grade histological variation of squamous cell carcinoma in view of its tendency to spread regionally and distally. The advanced stage of presentation of this disease has proven its poor prognosis and local aggressiveness. It was first described by Wain et al in 1986 as an independent neoplasm believed to arise either from the totipotential primitive cell in the epithelial basal layer or the epithelial lining of the salivary duct¹.

Despite its rare occurrence in different sites of the body, it has a predilection for the head and neck region. Laryngeal involvement is rare with most of these tumors arising in the glottis or supraglottis with a preference to the later. We would like to report a case of transglottic Basaloid Squamous cell carcinoma of the larynx with emphasis on the clinico-pathological features².

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Case Report

A 64 year old male, heavy smoker and alcohol abuser, presented with a 6 month history of hoarseness. He denied any history of hemoptysis, dysphagia, odynophagia or otalgia. Fiberoptic nasopharyngeal laryngoscopy revealed a right transglottic lesion involving the epiglottis, aryepiglottic fold, ventricle and true vocal fold.

Computerized Tomography of the neck after IV contrast showed a large soft tissue mass occupying the right side of the laryngeal vestibule, involving the right aspect of the epiglottis and extending to the level of the true vocal folds crossing the midline anteriorly and posteriorly. A single prominent lymph node was seen at level two on the left side of the neck. Direct laryngoscopy and biopsy from the lesion revealed poorly differentiated squamous cell carcinoma. Patient underwent total laryngectomy, right selective neck dissection for level II, III and IV with left lymph node biopsy.

Gross examination showed a right transglottic tumor measuring 3 cm in greatest dimension. Microscopically, the tumor was characterized by infiltrating solid sheets of basaloid cells showing palisading pattern along the edge and some cystic

spaces. In areas of solid growth, tumor cells displayed scant cytoplasm, and hyperchromatic nuclei. A mitotic figure was also noted (Fig. 1). The material within the cystic spaces is periodic acid-Schiff and Alcian blue positive, however mucicarmine was negative. A portion of the tumor abutting the thyroid cartilage showed squamous differentiation. An island of tumor cells with comedonecrosis was also noted (Fig. 2).

Immunohistochemical staining for a number of markers was performed. The tumor showed strong positivity for cytokeratin 34 β E12 and cytokeratin AE1/AE3 in areas of squamous differentiation, but only focal and weak positivity in basaloid cells.

Epithelial membrane antigen was distinctly focal and limited to areas of squamous differentiation. Carcinoembryonic antigen highlighted keratin pearls but was totally negative elsewhere in the tumor. There was diffuse moderately intense staining for neuron specific enolase (NSE). Cytokeratin 8/18 (CAM 5.2), S-100, and smooth muscle acting were negative. There was strong nuclear positivity for P53 in basaloid tumor cells and less intense positivity in the squamous component.

Fig. 1

Infiltrating solid sheets of basaloid cells showing palisading pattern along the edges (thin arrows) and small cystic spaces are seen in some areas (thick arrows). H & E \times 100. The inset demonstrates tumor cells with scant cytoplasm and hyperchromatic nuclei and a mitotic figure is noted (small arrow). H & E \times 1000

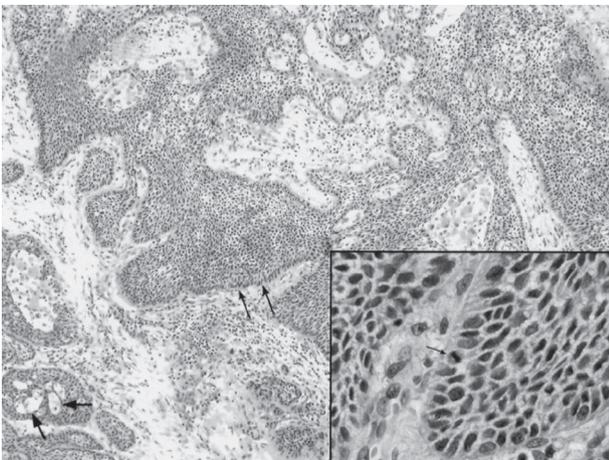
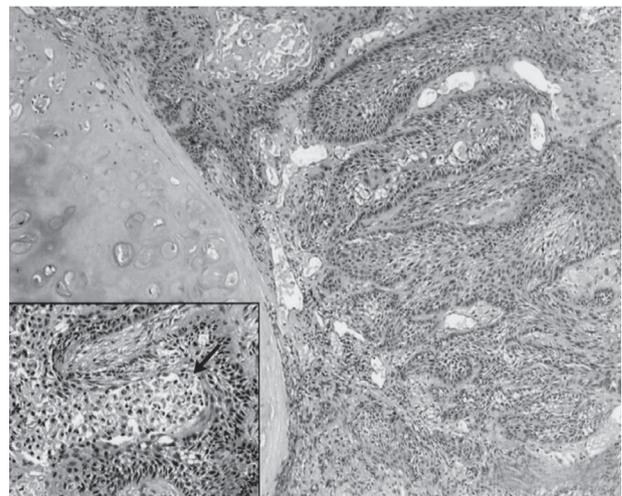


Fig. 2

A portion of the tumor with squamous differentiation. The tumor is seen abutting thyroid cartilage. H & E \times 100. The inset shows an island of tumor with comedonecrosis (arrow). H & E \times 400



Discussion

Because of the biphasic histology of basaloid squamous cell carcinoma, there is a potential for misdiagnosis in biopsies that are not fully representative. When the basaloid component is noted, the tumor must be differentiated from adenoid cystic carcinoma or neuroendocrine carcinoma. The presence of a squamous component should suggest basaloid squamous cell carcinoma. Another differentiating point is the continuity of the infiltrating tumor with a dysplastic overlying epithelium in basaloid squamous cell carcinoma, which is not present in adenoid cystic carcinoma (NSE may be positive in both basaloid squamous cell carcinoma and neuroendocrine carcinoma, however only the latter expresses the more specific neuroendocrine markers synaptophysin and chromogranin)³.

Keratin and CEA staining is generally limited to the squamous component, and is weak to absent in the basaloid component.

Basaloid squamous cell carcinoma has been reported in sites such as the lungs, thymus, cervix, anus, and esophagus. In the head and neck, the regions most frequently involved are the larynx, hypopharynx,

tonsils and base of tongue². Squamous cell carcinoma accounts for 85% of the epithelial malignancies of the larynx. Basaloid squamous cell carcinomas are sporadic cases affecting mainly the supraglottis. The typical case is that of a male elderly smoker with history of alcohol abuse, presenting with history of hoarseness and neck fullness. The role of the Epstein-Barr virus and human papilloma virus as contributory factors is still controversial⁴. Laryngeal endoscopy usually reveals a large invasive, ulcerated, tan white lesion with ill defined borders. The sites involved are the aryepiglottic folds, epiglottis, true and false vocal cords, arytenoids and retro-cricoid region and ventricles. In our case the tumor was transglottic extending from the ventricle, involving the left false cord, ventricle, true vocal fold and crossing the midline. The stage of the disease at presentation is invariably advanced with regional lymph nodes involvement in two thirds of the patients. Distant metastasis is common in 40% to 80% of the cases which reflects an aggressive clinical behavior and a high mortality rate in the first year⁵. Radical surgery be it total, vertical or supraglottic laryngectomy with selective or radical neck dissection is usually required. Radiation therapy is usually recommended and systemic chemotherapy is warranted in selective cases.

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