Case Report

Basaloid squamous carcinoma of the supraglottic larynx with neuro-endocrine features

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ABSTRACT

Basaloid squamous carcinoma (BSC) is a rare aggressive variant of squamous cell carcinoma and occurs mainly at the larynx, oropharynx and tongue of the head and neck region. Neuro-endocrine differentiation of BSC is further rare occurrence in laryngeal cancers. We report here a case of BSC of supraglottic larynx with neuro-endocrine differentiation, which was treated by radiotherapy and its response to treatment.

Key words: Basaloid squamous carcinoma, larynx, neuro-endocrine differentiation, supraglottis

INTRODUCTION

Laryngeal cancers are common in our population and commonly at the supraglottic larynx (SGL). Basaloid squamous carcinoma (BSC) is a rare aggressive variant of squamous cell carcinoma with a predilection for the head and neck region.[1] BSC was first described in the head and neck region by Wain *et al.*, in 1986.[2] BSC of head and neck region usually occurs at the oropharynx, hypopharynx, and SGL.[3,4] The diagnosis of BSC is made by histopathological examination, and it is a distinct clinic-pathological entity. Pathologically it has been confused with adenoid cystic carcinoma, basal cell adenocarcinoma, and small cell neuro-endocrine carcinoma.[5] Neuro-endocrine differentiation in a case of BSC larynx is a rare phenomenon. We report here a case of BSC of the SGL with neuro-endocrine differentiation which was treated by radiotherapy (RT) and its response to treatment.

CASE REPORT

A 42-year-old male presented in our outpatient department with the chief complaint of hoarseness and associated foreign body sensation of 2 months duration. The patient was a smoker and user of chewable tobacco. There was no history of cough or fever. Local examination by indirect laryngoscope revealed a proliferative growth involving the SGL. Direct laryngoscopy examination showed an ulcero-proliferative growth on the left SGL with the involvement of left half of epiglottis and left ary-epiglottic fold [Figure 1]. Bilateral vocal cord mobility was intact. Computed tomogram (CT) scan showed a homogenous enhancing mass lesion on the larynx without cervical lymph node enlargements. Punch biopsies were taken from the ulcer-proliferative growth, which showed a picture suggestive of BSC with neuro-endocrine differentiation [Figure 2a]. Immunohistochemistry (IHC) was done for cytokeratin (CK) and chromogranin. IHC was positive for CK [Figure 2b] and chromogranin [Figure 2c]. The final diagnosis of BSC with focal neuro-endocrine differentiation of the left SGL (T2N0M0) was made after clinical and histopathological examination, and IHC analysis. The patient was treated by external beam RT (EBRT) bilateral fields with 66 Gray/33 fractions. The patient tolerated EBRT well. On follow-up at 1-year 2 months following the completion of EBRT, there was complete loco-regional control of the disease [Figure 3].

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DISCUSSION

The common histology of laryngeal cancers is squamous carcinoma, and basaloid subtype of squamous carcinoma represents <1% of laryngeal carcinomas.[6] BSC arises from totipotential cells, which are also a precursor of squamous

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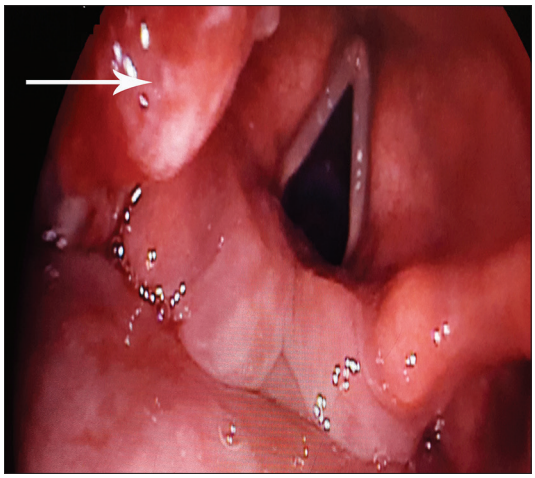

Figure 1: Picture showing a supraglottic growth by the white arrow

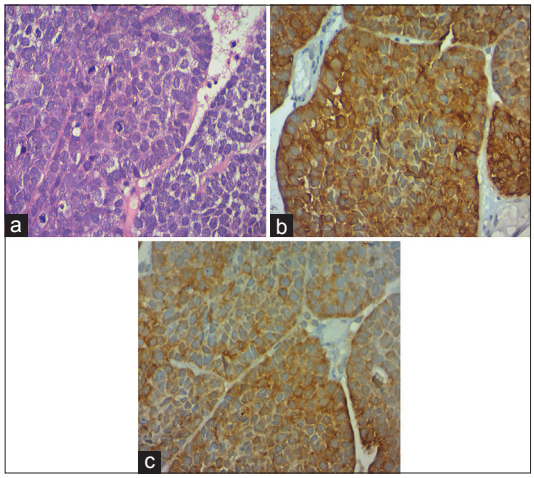

Figure 2: (a) Photomicrograph (×40) with H and E stain shows solid tumor islands with peripheral palisading, (b) Immunohistochemistry (IHC) stain showing positivity to cytokeratin, (c) IHC stain as focally positive for chromogranin

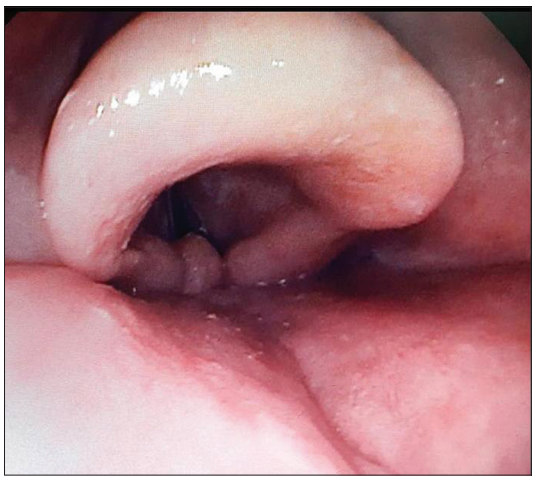

Figure 3: Endoscopic image shows the edematous larynx with postradiotherapy changes

carcinoma, adenocarcinoma, oat cell carcinoma and reverse cell carcinoma.[7]

Basaloid squamous carcinoma of SGL predominantly affects males in the sixth or seventh decades of life.[8] However, in the present case, the patient was in fourth decade of life. In comparison with squamous carcinoma of the larynx, the significantly higher number of patients with BSC presented with advanced local, regional, and distant disease.[9] In our case, the patient presented with a laryngeal growth limited to SGL with extensions as described previously. Furthermore, clinically and radiologically there was no cervical lymphadenopathy in the present case. Sub-mucosal involvement of preepiglottic and para glottis space in SGL cancers cannot be evaluated clinically or endoscopically, and hence CT scan needs to be done.[10] In the present case, there was no involvement of sub-mucosal spaces on the CT scan.

Deniz *et al.*,[11] could not demonstrate the different biologic nature of squamous cell carcinoma and BSC by studying proliferation and anti-apoptotic markers. As BSC is considered as an aggressive variant of squamous cell carcinoma so, the role of markers such as cadherins can be investigated. Chromogranin is a sensitive and specific maker for neuro-endocrine feature of cell.[12] For the present case chromogranin as IHC marker was tested for the neuro-endocrine differentiation. The focal IHC positivity to chromogranin in the present case showed the neuro-endocrine differentiation of BSC.

Given that it is an aggressive malignancy, multimodal treatment strategy for BSC of larynx has been advocated with a 3-year overall survival and disease-free survival rates of 63% and 53%, respectively.[13] Laryngeal cancers are mostly squamous cell carcinoma and hence, they are managed by surgery and RT alone or in combination. Chemotherapy is usually given to sensitize RT in the form of concurrent therapy and also, chemotherapy is used in the form of EGFR-directed monoclonal antibody to take care of distant disease (M1) for improving the overall survival.[14] In view of the localized nature of the disease in the present case, only single modality of treatment was provided by EBRT.

The response to treatment with oropharyngeal and laryngeal BSCs was not similar with a favorable prognosis in oropharyngeal BSC in comparison.[15] Furthermore, it has been showed in a large series that, BSC carries a worse prognosis than conventional squamous carcinoma of the larynx.[9] In our present case, the patient was disease free after 14 months following the completion of treatment. Long-term prognosis cannot be commented from our single case with a short-term follow-up period of 14 months. Though BSC of the larynx is common, but, differentiations of neuro-endocrine features in such cases are rare and in this case treatment with RT as single modality was adequate for early loco-regional control.

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