

Basaloid-squamous carcinoma of the nasal cavity

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Abstract

Basaloid-squamous carcinoma is a recently characterized, aggressive tumour occurring in the hypopharynx, larynx and base of tongue. We report a unique case involving the nasal cavity of a patient with a history of radiation therapy for nasopharyngeal carcinoma, raising the possibility that basaloid-squamous carcinoma can be radiation-associated.

Introduction

Basaloid-squamous carcinoma is the designation proposed by Wain *et al.* (1986) for an uncommon, locally widely invasive carcinoma of the upper aerodigestive tract exhibiting both basaloid and squamous features. The patients are usually in the fifth to ninth decades of life, with a male predominance. The tumours are located in the hypopharynx, larynx and base of tongue, measuring 1–6 cm in greatest dimension. The majority of the cases show lymph node involvement at initial diagnosis, and some already show distant metastasis. At least half the patients die of the disease one to four years after presentation (Wain *et al.*, 1986; McKay and Bilous 1989; Luna *et al.*, 1990; Tsang *et al.*, 1991). Thus, it is important to recognize this tumour, so that adjuvant therapy may be considered to improve the outcome. We report herein a case involving the nasal cavity, a site which has not been reported for basaloid-squamous carcinoma.

Case report

A 67-year-old Chinese male presented in February 1991, with a three-month history of epistaxis. He had a history of undifferentiated nasopharyngeal carcinoma (stage III), treated with radiotherapy (6000 cGys) 12 years previously. He had remained well after radiation therapy except for pulmonary tuberculosis,

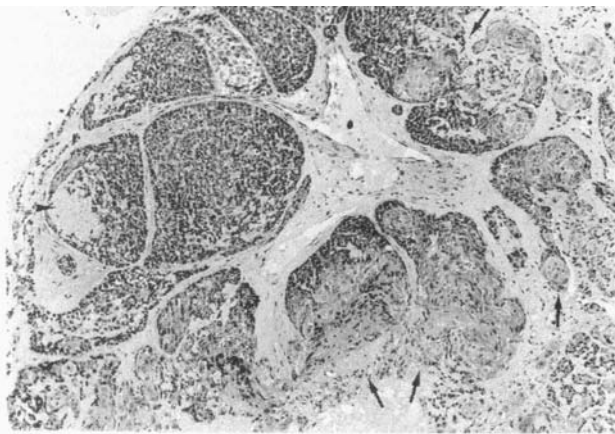


FIG. 1

Tumour showing intimate association of the basaloid islands with the squamous component (arrow). An area of comedonecrosis is indicated by an arrowhead (Haematoxylin-eosin $\times 125$).

which was also successfully treated. Examination revealed a large fleshy tumour packing the left middle meatus of the nasal cavity. The nasopharynx was clear. Biopsy of the nasal mass yielded a diagnosis of basaloid-squamous carcinoma. A CT scan showed gross tumour mass in the left nasal cavity; there was also erosion of the pterygoid process, with tumour invading into the left pterygopalatine fossa, left maxillary antrum, left side of the basi-sphenoid and adjacent basi-occiput. Since the tumour was inoperable, a palliative course of external radiation was given (5000 cGys), which was completed in June 1991. Examination in October 1991 showed no evidence of local tumour. However, since the patient was still quite emaciated and weak, further investigations to document whether there was residual tumour were not performed.

Pathological findings

Biopsy of the nasal tumour showed histological features typical of basaloid-squamous carcinoma. There was an intimate association and intermingling of the basaloid component with the squamous component. The basaloid component was composed of smooth-contoured lobules, solid masses and cords of relatively small cells which possessed hyperchromatic nuclei, inconspicuous nucleoli and scanty cytoplasm (Fig. 1). The mitotic count varied, but was up to five per high power field in some areas. Small cystic spaces containing mucin were present within the cellular masses, and comedonecrosis was common in the centres of some tumour lobules. Hyaline-myxoid stroma was present around the tumour islands and between the tumour cells in areas. The squamous component was in the form of sheets and clusters of keratinizing cells interspersed within, or between, the basaloid lobules (Fig. 1). Foci of moderate dysplasia were seen in the overlying squamous epithelium.

Comment

The present case is unique not only for the intranasal location of the uncommon basaloid-squamous carcinoma, but also for its association with a previous history of radiation therapy to this region. This unusual combination raises the possibility that basaloid-squamous carcinoma may represent a radiation-associated neoplasm.

Among radiation-induced carcinomas and sarcomas of the nasal and paranasal region, squamous cell carcinoma is the commonest. None of the cases of basaloid-squamous carcinoma reported in the literature has shown an association with prior

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Accepted for publication: 31 December 1991.

radiation to the site (Wain *et al.*, 1986; Luna *et al.*, 1990; Tsang *et al.*, 1991; Seidman *et al.*, 1991). Although it is difficult to prove a causal relationship between basaloid-squamous carcinoma with the prior irradiation in our case, this tumour satisfies at least some of the criteria for the diagnosis of radiation-induced neoplasm: 1) it occurs in the irradiated field; 2) it appears after a period of latency in terms of years (12 years in this case); 3) it is histologically different from the pre-existing tumour (Fajardo, 1982). However, to ascertain that basaloid-squamous carcinoma can occur as a radiation-induced tumour, more cases have to be collected to compare its relative incidence in patients having a history of radiation therapy and the control population, and to determine whether the risk of developing this tumour relates to the radiation dose.

Among the cases of basaloid-squamous carcinoma reported in the literature, three are associated with a second primary: laryngeal squamous cell carcinoma, oesophageal small cell carcinoma and palatal squamous cell carcinoma (McKay and Bilous 1989; Seidman *et al.*, 1991). Since patients with basaloid-squamous carcinoma appear to have an increased risk of developing another carcinoma in the upper aerodigestive tract, either synchronously or metachronously, possibly as a result of 'field change', this phenomenon may provide an alternative explanation for the occurrence of both nasopharyngeal carcinoma and nasal basaloid-squamous carcinoma in our case.

Key words: Basaloid-squamous carcinoma; Nasal neoplasms; Neoplasms, radiation induced.

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