Abstract. A rare case of metastatic verrucous carcinoma (VC) of the oral cavity is presented. The patient was referred to the Ophthalmology Department due to diplopia. The patient reported history of diagnosis of verrucous squamous carcinoma in the oral cavity occurring 6 years earlier that although excised presented several recurrences. The lesion metastasized to local lymph nodes and after being characterized as inoperable the patient underwent thirty-seven sessions of radiation therapy. Two months after completion of radiation therapy, the patient underwent an orbital CT scan that revealed a mass with morphological features consistent with secondary involvement of the orbit from the known VC. Although treated with chemotherapy, the patient died 5 months later. No other case of this entity, which usually presents as a slow-growing lesion enlarging with direct extension rather than frank invasion, metastasizing to the orbit has been reported in relevant literature.

Oral verrucous carcinoma (VC) is a well defined type of well-differentiated squamous cell carcinoma, characterized by silent clinical and pathological features (1). The reported rate of VC among all types of squamous cell carcinoma is 2-9% (2-5), while it comprises approximately 3% of all primary invasive carcinomas of the oral mucosa (6). It occurs more frequently among Caucasian men between the sixth and eighth decade. Tobacco use has been shown to be a significant etiological agent for its development (7). Reported sites of origin include the skin, male and female genitalia, anal tract, uterine cervix and bladder. The majority of cases occur in the oral cavity and less frequently in the larynx (4, 8). The histological diagnosis may be difficult, especially if the biopsy specimen is small. Nevertheless, correct diagnosis is very important for the correct treatment of the patient. Lymph node and distant metastasis are rare during all stages of this tumour (1, 9). VC present as slow-growing lesions that enlarge with direct extension rather than frank invasion. There have been observations that they tend to recur in the form of less-differentiated carcinomas (10). Our search in the literature for previous reports of oral VC metastasizing to the eye revealed no results.

Case Report

We present the case of a 74-year-old man who was referred to the Ophthalmology Department due to diplopia. Clinical examination revealed BCVA of 2/10 cc +1.00 sph in OD and 7/10 cc +1.50 sph in OS. IOP was 15 mmHg in OD and 14 mmHg in OS. Anterior chamber slit-lamp examination showed cataract formation at an initial stage in OS. Dilated pupil fundus examination of OD showed compressive optic neuropathy. Left eyelid ptosis was also evident. Diplopia was reported in all positions of gaze.

The patient reported that six years earlier he had undergone laser excision of buccal mucosal leukoplakia. Two years later an excisional biopsy from a lower lip whitish, warty tumor revealed diffuse infiltration from neoplastic cells that presented mild nuclear atypia and pleomorphism. Mitotic activity was consistently low (Figures 1, 2). The pathological diagnosis was compatible with verrucous squamous carcinoma and a surgical excision was performed.

In the next three years, the patient presented with three local recurrences of the disease that were treated with local excision. In the last recurrence, the patient presented with diffuse swelling of the right submaxillar area. The subsequent head and neck CT scan showed a block of lymph nodes with central necrosis in the floor of the buccal cavity and in the submaxillar area. A fine-needle aspiration was performed that revealed the presence of metastasis from the
Figure 1. Histological section of tumour biopsy showing the verrucous fronts and the intense inflammatory infiltration of the underlying lamina propria. (H/E, x100).

Figure 2. Histological section of tumour biopsy. Note the smooth pushing border and the nuclear pleomorphism of tumour cells (H/E, x400).
already known VC in regional lymph nodes (Figure 3). Two months later the patient presented with a hard palate lesion and after its biopsy, which was positive for VC, the neoplasm was characterized as inoperable and the patient underwent thirty-seven sessions of radiation therapy. Two months after completion of radiation therapy, the patient underwent an orbital CT scan that revealed a mass with morphological features consistent with secondary involvement of the orbit from the known VC. The tumour presented as an osteolytic lesion of the inferior wall of the right orbital cavity that extended to the area of the optic foramen and the greater wing of the sphenoid up to the right anterior clinoid process of the sella turcica. The posterior ethmoid sinuses were also infiltrated. The optic nerve was also infiltrated and appeared thickened, causing significant enlargement of the optic foramen. The mass infiltrated the cognate cavernous sinus. The patient was treated with six cycles of chemotherapy (Taxol, Gemzar) in combination with radiation therapy. The patient died 5 months later.

Discussion

Verrucous carcinoma was first defined by Ackerman in 1948 as a pathological entity. In Greece, the reported incidence for VC among other intraoral malignancies is 5.8% (11). The clinical behaviour of VC can be destructive despite its deceptively benign microscopic appearance. VCs may grow very large and extensively infiltrate and destroy adjacent structures, including bone and cartilage.

Accurate diagnosis of VC still remains an important problem, since its relatively benign appearance of neoplastic cells should be differentiated from other benign lesions such as leukoplakia, papilloma, pseudoepitheliomatous hyperplasia, verrucous hyperplasia, as well as from grade I squamous carcinoma. To exclude the latter possibility, deeply infiltrating portions of the lesion should be excised during biopsy.

Contradictory observations have been published concerning the metastatic potential of oral VC. Some authors describe an invasive growth with disconnected islands and groups of invading tumour cells and therefore a capacity to demonstrate metastasis (12, 13). However, sporadic cases of metastatic VC have been described (13, 14). Others insist that VC is locally invasive and cannot metastasise (15, 16). They hold that metastasis associated with a primary VC may be partially explained by an incorrect histological diagnosis or by the presence of occult squamous carcinomas in a lesion otherwise characteristic of VC. Regional lymph node involvement is uncommon in VC, while adjacent structures are often involved as it often acquires large dimensions during tumour progression (1). In the presented case, the presence of neoplastic cell emboli in venules provides the potential pathway of metastatic spread.

Figure 3. Fine-needle aspiration of a lymph node showing isolated atypical squamous cells laying in hemorrhagic background. (Diff-Quik, x200).
We should always take into consideration the fact that anaplastic transformation of VC can take place after curative doses of radiation therapy (1, 9, 17). Furthermore, physicians must bear in mind that the common ways of metastasis are not the only ways a tumour may spread.

References


Received April 3, 2007
Accepted May 29, 2007