Verrucous Carcinoma of the Right Lower Gingiva: Report of a Case

by

Hirotsugu YAMAMOTO,* Minoru TAKAGI,* Shigeo OTAKE,*
Fukumitsu YAMAGUCHI,** Motoo OHMORI,** Tetsuo OIKAWA,**
Hirotugu IZUMI,** Atsushi IKESIMA***
and Mitsuhisa OZAWA***

Introduction

Verrucous carcinoma is a well known variant of the squamous cell carcinoma[1, 2]. It occurs most commonly in the oral cavity, especially of elder patients. Several cases of this oral squamous cell carcinoma have been reported in current medical literature[3, 4]. Although a verrucous carcinoma resembles a benign squamous tumor under microscopic examination, it grows relentlessly enough to invade the adjacent bone. It is widely accepted that the surgical approach should be the first choice of treatment[1, 5]. However, when patients are too old to undergo an operation or refuse to go through surgical treatment, there may be no alternative but chemotherapy. Radiation is not recommended as a rule to be employed for the purpose of the therapy of this tumor, because the tumor occasionally makes its appearance of anaplastic change as a result of radiotherapy[6, 7]. Recently cryosurgery has been used in the treatment of the oral tumors[8, 9]. Cryosurgery does not burden patients intensively, because it requires no anesthesia and there is no operative or postoperative bleeding. We recently experienced a case of oral verrucous carcinoma which had been treated actively by chemotherapy and cryosurgery. Though both methods in our case were not significantly effective, the case is presented because of the shortage of data in literature on chemotherapy and cryosurgery, and reference for further information concerning more effective treatment methods.

Case Report

In February, 1976, a 68-year-old woman felt a dull sensation of the right lower alveolar ridge wearing dentures. In May, she noticed a warty growth on the same site. She was introduced to our hospital by her family dentist in June, 1976.

On oral inspection, there was a whitish verrucous proliferation of the right lower gingiva (Fig. 1). The lesion was surperficial and did not invade the underlying tissue. Roentgen-ray examination of the jaw region revealed no remarkable lesion. A small regional lymph node was palpable. The malignant tumor was indicated at the right
lower gingiva through clinical diagnosis. However, the initial biopsy specimen was diagnosed as verrucous hyperplasia or leukoplakia. In spite of the recommendation to have surgical excision, she refused to be treated surgically. A bleomycin chemotherapy, 15 mg, twice a week, intravenously, was chosen as the treatment. Since bleomycin-administration (totaling 225 mg) resulted in no remarkable changes of

Fig. 1. Intraoral view of the verrucous carcinoma at the site of the right lower gingiva.

Fig. 2. Mandible has been destroyed by the tumor as shown by roentgen-ray examination.
Fig. 3. A cut surface of the tumor showing roughened and irregular surface.

Fig. 4. Marked epithelial hyperplasia with acanthosis and hyperkeratosis. H-E stain ×40
the lesion, cryosurgery with the surface contact method employing a freon-cooled probe at $-180^\circ$C for two minutes was performed twice in October. Additional bleomycin chemotherapy was continued again to a total of 585 mg, in combination with 4,800 mg of 5-fluorouracil. In spite of active chemotherapy the tumor continued to grow. A roentgenogram taken in December revealed resorption of the right alveolar portion of the mandible (Fig. 2). The patient at last agreed to undergo an operation and surgical excision was performed in March, 1977. She was alive with recurrence of a lesion in August.

**Pathological Findings**

The excised specimen consisted of an oral tumor measuring $5 \times 2.1$ cm. Lymph node and bone were not involved.

Macroscopically, the lesion was raised with a whitish irregular surface. In the cut surface of the tumor, an epithelial layer was prominently thickened but invasive proliferation into the deep tissue was not noted (Fig. 3).

Microscopically, there was marked squamatoid epithelial hyperplasia with hyperkeratosis, acanthosis, bullous rete pegs and cleft like space containing keratin (Fig. 4). The tumoral epithelial cells were well differentiated and showed a minor degree of epithelial atypia. Malignant signs such as loss of polarity and mitotic figures were rarely observed. The basement membrane was generally intact, and invasive infiltration composed mainly of lymphocytes was observed in the underlying connective tissue and occasionally in the epithelium. Necrosis, fibrosis, loss of cohesion and degeneration were rarely detectable.

**Discussion**

In most cases of verrucous carcinoma a local cure is therapeutically important since the recurrence ratio of verrucous carcinoma is comparatively high, while distant metastasis is rare. In the past verrucous carcinoma has been treated in several different ways, usually by surgery or radiation and a combination of both[1]. Kraus et al.[5] reported that the prognosis to surgical excision was generally good while radiation exhibited anaplastic transformation resulting in a more rapid clinical course. The patient in the present case refused to undergo surgical treatment. Under these circumstances, chemotherapy was carried out first and cryosurgery was carried out second, since radiation was considered to be of no effect as mentioned above[1, 5].

Chemotherapy for verrucous carcinoma has rarely been reported on. Kapstad et al.[10] reported that administration of bleomycin (totaling 300 mg) had a good palliative effect on the verrucous carcinoma. Bleomycin was used throughout Europe[11] and Japan[12] for malignant tumors, especially well differentiated squamous cell carcinomas. However, Kawakatsu et al.[13] reported on a case where 150 mg of bleomycin was administered for the treatment of verrucous carcinoma, resulting in slight improvement, but surgical excision was eventually carried out. They described that there was no significant relations between differentiation degrees and effectiveness of bleomycin. In the present case bleomycin-administration, totaling 225 mg) was first carried out, but remarkable change of the lesion was not observed. Additional bleomycin was continued up to a total of 585 mg in combination with 4,800 mg of 5-
fluorouracil, however the tumor continued to grow. Present case thus dealt with active chemotherapy. However the result proved to be not as we had expected. Since there are few case reports concerning chemotherapy for verrucous carcinoma, it is expected that still more verrucous carcinoma cases will be discussed with reference to application methods, etc. from now on.

Cryosurgery has been used for the treatment of benign and malignant tumors on the oral cavity yielding good results[8] or not[9], but it has rarely been used for verrucous carcinomas. CLAYDON et al.[14] only reported on a case where cryosurgery was used for verrucous carcinoma with palliative effect. Surface contact freezing was not as efficient for verrucous carcinoma in the present case. The reason for failure of cryosurgery in the present case is not clear. This is probably because the peripheral parts of the tumor can not be frozen because of such wide extent into the surrounding tissue, resulting in the survival of the tumoral cells.

At last the patient agreed to undergo an operation and surgical excision was performed, but the recurrence was inevitable. As the recurrence frequently occurs at the margin of the removed area, the surgical excision should have been more extensive.

Summary

A verrucous carcinoma of the right lower gingiva treated with active chemotherapy and cryosurgery has been described. Chemotherapy with bleomycin and 5-fluorouracil, and cryosurgery using surface contact freezing were not found effectively.

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References

