A Case Report of Huge Oral Verrucous Carcinoma in Oral Cavity

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Abstract

Verrucous carcinoma is a distinctive form of low-grade squamous cell carcinoma. The tumor has an exophytic, cauliflower-like appearance, and usually occurs in males and tends to affect individuals over 60 years of age. It typically involves the oral cavity, larynx, esophagus and skin. Most intraoral cases involve the mandibular vestibule, the buccal mucosa and the hard palate. The cause is unknown, but most verrucous carcinomas arise from the oral mucosa in people who chronically use chewing tobacco or snuff. The treatment of oral verrucous carcinoma remains controversial. Whenever possible, surgically total excision and skin or mucosal grafting is recommended. After total excision of huge verrucous carcinoma,instead of dermal or mucosal grafting, we used artificial dermis silicone membrane. We had a good result without recurrence and present this case.

Key words

Verrucous carcinoma, Artificial dermis silicone membrane.

INTRODUCTION

Ackerman first recognized verrucous carcinoma as a spit tobacco-associated malignancy in 1948[1]. Oral verrucous carcinoma is a low-grade, slow-growing, non-metastasizing variant of oral squamous cell carcinoma that most frequently affects the oral mucosa[2]. The most common sites of oral mucosal involvement include the lower vestibule, the buccal mucosa, and the hard palate[3]. Other site such as the larynx, esophagus, nasal fossae, skin, and genitals may also be involved. Oral verrucous carcinoma is usually extensive by the time of diagnosis, and it is usual for a tumor to be present in the mouth for 2 to 3 years prior to the diagnosis. The lesion appears as a diffuse, well-demarcated painless, thick plaque with papillary or verruciform surface projections[3]. Various factors have been implicated in the development of oral verrucous carcinoma, including chemical carcinogens, trauma,chronic irritation, and human papillomavirus[4]. Most verrucous carcinomas arise from the oral mucosa in people who chronically use chewing tobacco or snuff. As many as 20 percent of the oral lesions are diagnosed in nonusuers[3]. Tumors from anatomic sites other than the mouth are apparently unrelated to tobacco usue. Other studies have investigated whether human papillomavirus, mainly genotypes 2, 6, 11, 16, and 18, could be another possible causative factor, but the significance of this is unclear[5,6]. Treatment of oral verrucous carcinoma remains controversial. The selection of treatment is primarily based on effectiveness of control. Surgical removal is recommended over other methods including chemotherapy, radiotherapy. However, Verrucous carcinoma with wide involvement often make the total excision difficult. This article describes a simple and effective method, total wide excision and artificial dermis silicone membrane. This method offers satisfactory result without specific dermal or mucosal graft. We report huge oral verrucous carcinoma with positive immunohistochemical p-53 testing, treated by wide excision and artificial dermis silicone membrane under local anesthesia, along with a review of related literature.

CASE REPORT

A 73-year-old korean woman was referred to our oral and maxillofacial surgery clinic for evaluation of a tumor that had been present on her mandibular vestibule for 5 years. On clinical examination, exophytic, foul-smelling tumor with papillary or verruciform surface projections were observed. The lesion

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had an approximate dimension of 9×5×5 cm(Fig. 1). The patient had no history of tobacco or alcohol use. But she was diabetic. The clinical diagnosis was oral verrucous carcinoma. Under local anesthesia, the tumor was excisied with eletrocautery to the sound underlying tissue for histopathologic examination. The wound was coverd with artificial dermis silicone membrane (Fig. 2). The specimen was sent for histopathologic examination, and the diagnosis was verrucous carcinoma(Fig. 3). The patient was medicated with antibiotic, analgesic, anti-inflammatory drugs for 7days. During the 12-month follow-up period after surgery, no recurrence was observed(Fig. 4).

Fig. 1-a. Huge verrucous hyperkeratotic papule in the oral cavity at initial clinical presentation.

Fig. 1-b. Removed mass.

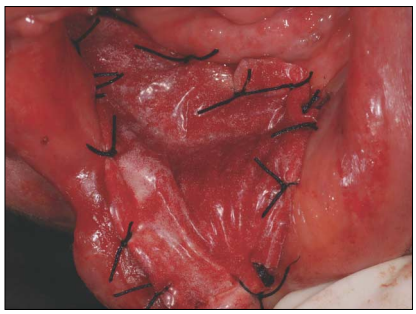

Fig. 2. The wound was covered with artificial dermis silicone membrane type.

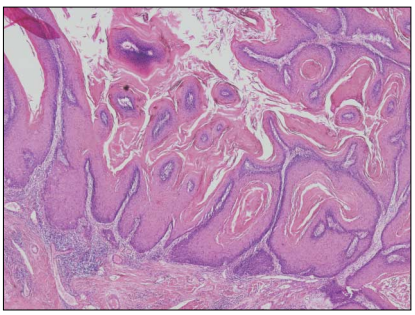

Fig. 3-a. Low-power view(×20) showing epithelial hyperplasia with a rough, papillary-suface.

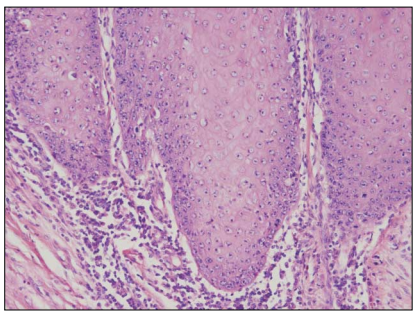

Fig. 3-b. High-power view(×200) demonstrating hyperkeratosis andthe rete ridges without significant cellular atypia.

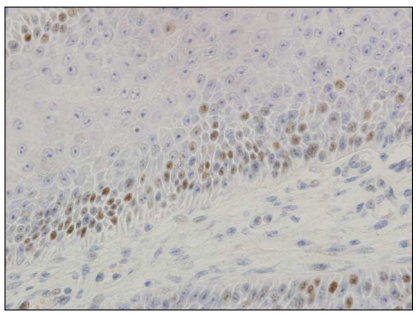

Fig. 3-c. p53 immunostaining of verrucous carcinoma.

Fig. 4. After 12 months follow-up, esthetic appearance without recurrence.

DISCUSSION

Verrucous carcinoma is a low-grade, slow-growing, non-metastasizing, distinct variant of squamous cell carcinoma, first reported by Ackerman in 1948[1]. It often presents clinically as a verrucous plaque, or nodule, with cauliflower-like growth. The tumor usually occurs in males and tends to affect individuals over 60 years of age. Most intraoral cases involve the gingiva, alveolar mucosa, buccal mucosa, hard palate, but it has been diagnosed at several extraoral sites, including temporal bone, laryngeal, vaginal, and rectal mucosa and skin from the breast, axilla, scalp, ear canal, and soles of the feet[3]. The cause is unknown, but consumption of tobacco in the form of chewing, snuffing, or heavy smoking is considered the most important factor associated with the development of verrucous carcinoma[7,8]. Tumors from anatomic sites other than the mouth are apparently unrelated to tobacco use. Several investigators have identified human papillomavirus, mainly genotypes 2, 6, 11, 16, and 18, in oral verrucous carcinoma[6,9]. However, most studies have failed to find a statistically significant association of any human papillomavirus genotypes with verrucous carcinoma. Several methods are used to treat patients with verru-

cous carcinoma of the oral mucosa. Surgical excision has been the most common treatment modality. Aggressive initial therapy such as wide local excision would offer better local controls, but with several disadvantages. Extensive lesions treated by surgery frequently require repair by grafting skin, mucosa, or flap. Lesions involving vermillion borders of lips and mouth angles present considerable problems, such as scar formation and deformity. After widely total excision of huge verrucous carcinoma, we used artificial dermis silicone membrane for covering mocosal defect. The advantages of artificial dermis silicone membrane are their ease of use, no sophisticated equipment required, and economy of time. Other treatment modalities include immunotherapy, laser therapy, cryotherapy, electrodessication, and curreatage, retinoid therapy, chemotherapy(typically intralesional), and ratiotherapy. Some studies suggested that anaplastic transformation of the tumor can occur after radiotherapy. Transformation to a more anaplastic tumor type occurs in about 7-30% of patients with oral verrucous carcinoma who receive curative doses of radiation[10,11]. Tharp suggests that the local control of the verrucous carcinoma with radiotherapy is less then 50%, but is between 74% and 86% with surgery[11]. Surgery seems to be the best therapeutic alternative in the treatment of this tumor. If tumor is irresectable, radiotherapy may be suitable. Kapstad and Bang reported a case of verrucous carcinoma treated with Bleomycin with good result[12]. Chemotherapy may temporarily reduce the site of a verrucous carcinoma, but it is not considered a definitive, stand-alone treatment. The prognosis of the verrucous carcinoma is related to the spread of tumor. It shows low potential for invading the connective tissue or producing metastasis. Despite this behavior, verrucous carcinoma can destroy adjacent tissue[2], and it has a strong tendency to recur after treatment[1]. Lymph node metastases are surprisingly low in number and have been reported in only 9% of patients[13]. Five year survival rates of patient with verrucous carcinoma have been reported to be 88.9% with surgery alone, 57.6% with radiation alone, and 73.4% with surgery plus radiation[14]. Surgery seems to be the best therapeutic alternative in the treatment of this tumor. If tumor is irresectable, radiotherapy may be suitable. Mutant forms of p53 protein not only lose suppressor activity but also promote tumor growth. Over expression of the p53 gene is the most common genetic alteration in head and neck squamous cell carcinomas[15]. Therefore, the lack of a difference between verrucous carcinomas and well differentiated squamous cell carcinomas in p53 may be related to the potential of verrucous carcinomas to gradually invade into and destroy surrounding soft tissues and underlying bone. Vidyasagar reported that mandibular bone involvement was associated with 19.6% of verrucous carcinomas[16]. In present case, p53 protein was expressed, but mandibular bone was not involved. Because most recurrences in verrucous carcinoma occur during the first 6 months of follow-up[17], Up to the present, the treatment provided to our patient is satisfactory without recurrence during follow up 12 months.

CONCLUSION

The authors report a case of a 73-year-old korean womana diagnosed with verrucous carcinoma who underwent widely surgical excision with artificial dermis silicone membrane and was followed up for 12 months, along with a review of related literature. The present technique using artificial dermis silicone membrane offers ease of use, economy of time, esthetically satisfactory result, but does not need additional equipment such as cryosurgical equipment, laser, secondary surgical field for skin or mucosal grafting. A close follow-up of patients with verrucous carcinoma is very important to detect any sign of recurrence as early as possible.

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