



## Case Report: Dysplasia in Papilloma at the Tip of the Tongue; a Rare Entity-importance of on Time Prevention



Nazila Ameli<sup>1\*</sup>, Shabnam Sohanian<sup>2</sup>, Maryam Jalili Sadrabad<sup>2\*</sup>

1. Department of Orthodontics, School of Dentistry, Semnan University of Medical Sciences, Semnan, Iran.
2. Department of Oral Medicine, School of Dentistry, Semnan University of Medical Sciences, Semnan, Iran.



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**Running Title** Dysplasia in Papilloma

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### ABSTRACT

**Background:** Oral papilloma is benign lesion while there is concern about high-risk types of Human Papilloma Virus (HPV) for cancer.

**Case Presentation:** The patient was a 30-year-old woman who presented to the School of Dentistry, Semnan University of Medical Sciences for orthodontic treatment. Intraoral examinations revealed a prominent white papule on the tip of the tongue. Histopathologic examination revealed the proliferation of hyper keratinized stratified squamous epithelium arranged in projections with fibrovascular connective tissue cores, cell irregularity with hyperchromatic nucleus and koilocytes within the epithelium which confirmed the diagnosis of squamous papilloma (SP) with mild to moderate dysplasia. The patient was instructed to take care of the sexual behaviors and the injection of Gardasil vaccine was recommended. A month later, there was no evidence of a lesion.

**Conclusion:** Though SPs are common lesions in the oral cavity, occurrence of dysplasia on SPs on the anterior part of the mouth is rare. Surgical removal supplemented by administration of Gardasil vaccine can be the treatment of choice in these cases. The significance of close attention to the oral lesions and consultation with an Oral and Maxillofacial Medicine Specialist is highly recommended in order to accurate diagnosis and timely treatment.

**Keywords:** Papilloma, Oral Cancer, Tongue Cancer, HPV Infection

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#### \* Corresponding Author:

**Maryam Jalili Sadrabad, MD.**

**Address:** Department of Oral Medicine, School of Dentistry, Semnan University of Medical Sciences, Semnan, Iran.

**Tel:** +98 (23) 33321026

**E-mail:** [dr.njalili@gmail.com](mailto:dr.njalili@gmail.com)

## 1. Introduction

**O**ral Squamous Papilloma (SP) is one of the most prevalent lesions of the oral cavity which manifest as a papillary or verrucous exophytic mass [1]. Human Papilloma Virus (HPV) types 6 and 11 are responsible in benign lesion while, type 16 and 18 are responsible for dysplasia. Posterior area of the tongue and soft palate are the common sites of its occurrence [1]. HPV can invade the nuclei of Basal cells in the spinous layer of epithelium which leads to proliferative tissue growth [2]. In children, the dominant method of transmission is reported as ingestion of viral particles from the birth canal while in adults it is through sexual contact [1, 3]. Since HPV is an established risk factor for cervical cancer in women, women with oral SP concern for HPV signs in their oral cavity. This study reports a rare case of SP with dysplasia which was found on the tip of tongue of a 30-year-old woman.

## 2. Case Presentation

The patient was a 30-year-old woman who presented to the School of Dentistry of Semnan University of Medical Sciences for orthodontic treatment. Intraoral examinations revealed a prominent white papule on the tip of the tongue that had been developed in the patient since a month ago (Figure 1). Patient referred to the general practitioner and took Doxycycline and Diphenhydramine for treatment of the lesion. Despite of the use of drugs, the size of lesion was still unchanged and she was affected by dry mouth. The patient referred to oral medicine specialist. In history evaluation of the patient, no related problem and history of oral sex was found. Head and neck and other side of oral examinations didn't revealed any other pathologic entities. The lesion was a white-gray-colored papillary surface 0.5 × 0.5 cm papule located at the tip of tongue in the left side

of midline. There was no complaint about lesion. After taking informed consent, excisional biopsy was done with a blade, under local anesthesia with lidocaine containing epinephrine 1/80,000. The sample was referred to the Oral and Maxillofacial Pathologist for histopathologic examination, and the patient's medications were discontinued. Histopathologic examination revealed the proliferation of hyperkeratinized stratified squamous epithelium arranged in projections with fibrovascular connective tissue cores. The normal arrangement of basal and parabasal cells showed irregularity with hyperchromatic nucleus. Some koilocytes were seen within the epithelium which showed the changes by HPV (Figures 2, 3). According to histopathologic findings, squamous papilloma with mild to moderate dysplasia was reported as the diagnosis. The patient was instructed to take care of the sexual behaviors and the injection of Gardasil vaccine was recommended. Due to asymptomatic lesion, the patient didn't cooperate for HPV genotyping in order to detection which type of the virus has induced the lesion. A month later, there was no evidence of a lesion and the dry mouth had been resolved.

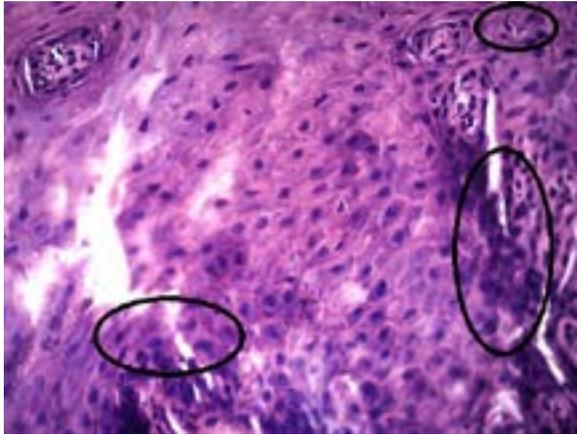
## 3. Discussion

Squamous papilloma is described as a pedunculated lesion with cauliflower-like surface. They might be single, multiple or diffusely involving broad areas of the oral mucosa. In current case, it presented as a single cauliflower-like lesion as reported by Abbey et al. [4]. Although basilar hyperplasia and mitotic activity in some papillomas can be mistaken for mild epithelial dysplasia [1]. But, in the current case dysplasia was confirmed.

Oral squamous cell papilloma is mostly found in the palate [1, 5]. However, Major et al. [6] stated that the labial mucosa is the most common location, while Flint et al. [7] reported the tongue. Das and Das [8] and Abbey et al. [4] have reported these lesions in the uvula,



**Figure 1.** A white papule on the tip of the tongue of the patient



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**Figure 2.** The proliferation of the stratified squamous epithelium with cell irregularity and hyperchromatic nucleus (H&E× 400)

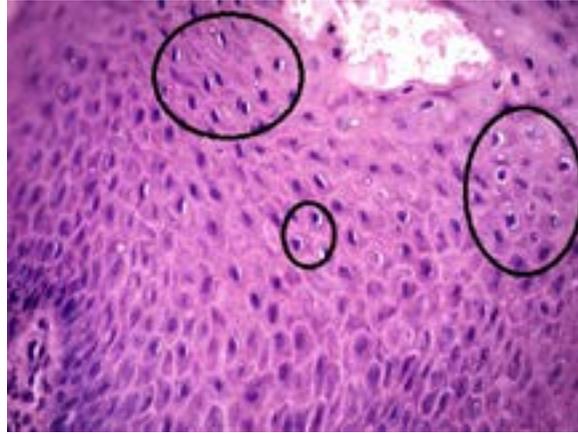
tongue, lips and gingiva. In addition to oral region, the second common site of its occurrence is reported to be the cervix [9, 10]. Moreover, it has been reported that HPV is responsible for more than 5% of cancers worldwide, which includes cervical cancers as well as increasing number of oropharyngeal squamous cell carcinomas [11, 12].

It is believed that the HPV especially HPV 6 and 11 are mostly common etiologic factors of the lesion. However, trauma has also been implicated in the etiology of papilloma [5]. HPV can invade the nuclei of the cells in the spinous layer; thus, inducing a series of proliferative changes which lead to growth [2].

Diagnostic techniques are so wide which might include methods such as cytology, biopsy, immunohistochemistry and molecular techniques [2]. Differential diagnosis should be made with clinically similar epithelial lesions, like condyloma acuminatum and verruca vulgaris. In our case, we used biopsy as diagnostic technique.

Treatment options vary from patient application of some gels and ointments to providers administration of cryotherapy and surgical removal using lasers, electrosurgery and curettage [13]. However, the treatment of choice for lesion is the surgical removal of the papillomas, although cases of recurrence have been reported [14].

A prophylactic vaccination against HPV types 6 and 11 is introduced which is claimed by Villa et.al and Mauz et.al that can prevent the Recurrent Respiratory Papillomatosis (RRP). Currently, there are three types of approved vaccines for the prevention of HPV infection of the anogenital tract; the bivalent, the tetravalent, and



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**Figure 3.** Koilocytes were seen within the epithelium which showed the changes by HPV (H&E× 400)

nonvalent vaccine. The efficacy of tetravalent (Gardasil®) is found to be 100% against precancerous cervical lesions due to HPV type 16 and type 18, genital warts induced by HPV 6/11 as well as highly differentiated vaginal neoplasia [12]. In the present case, we administered Gardasil vaccination following surgical removal of the lesion as we proposed that such therapy would prevent recurrence of the lesion. Although, more studies are required in order to approve its efficacy in prevention of recurrent oral lesions.

#### 4. Conclusion

Though SPs are concerning lesions in the oral cavity, occurrence of dysplasia on SPs on the anterior part of the mouth is rare. Surgical removal supplemented by administration of Gardasil vaccine can be the treatment of choice in these cases. The significance of close attention to the oral lesions and consultation with an Oral and Maxillofacial Medicine Specialist is highly recommended in order to accurate diagnosis and timely treatment.

#### Ethical Considerations

##### Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

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### Authors' contributions

Conceptualization and supervision: Nazila Ameli and Maryam Jalili Sadrabad; Methodology: Shabnam Sohanian and Maryam Jalili Sadrabad; Investigation, writing – original draft, and writing – review & editing: All authors.

### Conflict of interest

The authors declared no conflict of interest.

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