

# CASE REPORT: Benign Overgrowth of the Oral Cavity: Er:YAG Laser-assisted Treatment

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## ABSTRACT

Verruca vulgaris is a common virus-induced benign lesion of the skin and mucous membranes, caused by human papillomavirus (HPV) infection. Intraoral occurrence is very rare and is mainly due to autoinoculation from existing skin lesions. The predilection sites are the gingiva and hard palate. The clinical picture varies according to the genotype of the virus and the site of the infection. In very rare cases it can be malignantly transformed into verrucous carcinoma. We present the case of a 70-year-old woman with two verruca vulgaris on the gingiva.

**Key words:** intraoral verruca vulgaris, Human papillomavirus, erbium laser.

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## I. INTRODUCTION

Verruca vulgaris is a benign growth of the stratified squamous epithelium [4]. It is mostly asymptomatic and can regress spontaneously within 2 years [8]. It can occur on any mucocutaneous part of the body, and as a contagious disorder it can be transmitted to secondary sites [5]. Intraoral verruca vulgaris is a soft, firm, elevated or cauliflower-like growth, usually white or pink in color. It is a slowly growing lesion, which may be single, multiple or diffuse with either sessile or pedunculate base [2]. Intraoral verruca vulgaris can occur at any age, but is most commonly seen between 30- 50 years of age [2]. There is no sex predilection.

Verruca vulgaris is most commonly induced by »low-risk« HPV: HPV-2, HPV-4 and HPV-40 [5].

HPVs are small, non-enveloped double-stranded DNA viruses of the Papillomaviridae family that infect mucosal and cutaneous epithelia [1]. They form a heterogeneous group of viruses; currently more than 200 genotypically different forms of HPVs have been identified [6, 7]. They are divided into five genera:

Alphapapillomavirus, Betapapillomavirus, Gamma-papillomavirus, Mupapillomavirus and Nupapillomavirus.

Besides verruca vulgaris, the most common lesions in the oral cavity associated with HPVs are: squamous papilloma, condyloma accuminatum and focal epithelial hyperplasia.

## II. CASE

A 70-year-old female patient presented/referred to our Oral Medicine and Periodontology department with two asymptomatic lesions on the gingiva. She had no history of smoking and did not consume alcohol. 10 years ago she was diagnosed with tonsil carcinoma and a proven infection with HPV 16. She also had a verruca vulgaris on the mandibular gingiva between teeth 42 and 43, which was then successfully removed by laser therapy (Figure 1).



Fig.1: Two rounded exophytic neoplasms on the mandibular gingiva.

Clinically, two rounded, firm and well-defined exophytic neoplasms were seen on the mandibular gingiva. They were painless on palpation, pale pink and approximately 2×2 mm in size. The first lesion was located on the buccal gingiva at the region of tooth 36, while the second lesion was lingual at the site of tooth 44. Clinical diagnosis was verruca vulgaris.

**Er:YAG laser-assisted treatment:** The most commonly used methods to remove such lesions are surgical excision, electroradiosurgery and laser ablation.

Under local anesthesia, the lesion was completely excised using Er:YAG laser (SP, 80 mJ/p, 30 Hz, AT Fidelis, Fotona d.o.o., Slovenia) (Figures 2-5).



Fig. 2: Minimally invasive removal technique of verruca vulgaris with Er:YAG laser.



Fig. 3: Immediately after removal of the lesions. Minimal wound bleeding.



Fig. 4: Clinical picture after 2 weeks. The wounds are healing fast and with minimal scar tissue formation.



Fig. 5: Follow-up after 1 month. The gingiva is completely healed.

Using laser is a quick and comfortable treatment for patients. It causes minimal bleeding and decreases swelling and scar formation [3].

No recurrence or complications in the first follow-up year have been noted.

### III. CONCLUSIONS

Oral verruca vulgaris is a rare benign viral papilloma [2]. Different treatment methods are available for such lesions, but in our case the verrucas were found in the early stage, so we could decide for a minimally invasive removal technique with Er:YAG laser. This technique can provide functional and aesthetically favorable clinical outcomes, but due to potential viral etiology it does not prevent the recurrence of the lesion.

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