



## Oropharyngeal cancer: a clinical case report

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### Abstract

**Introduction:** The National Cancer Institute (INCA) estimates that for each year of the triennium 2020/2022, 15,190 new cases of cancer in the mouth and oropharynx are diagnosed in Brazil. In the global context, oropharyngeal cancer (OPC) is in the sixth position of cancer incidence. The most frequent form, about 90%, is squamous cell carcinomas. **Objective:** It was to present a clinical case report of oropharyngeal cancer in an octogenarian patient, to present the main diagnostic and treatment procedures in advanced age.

**Methods:** The present study was elaborated according to the rules of the CARE case report. Scientific search engines: PubMed, Embase, Scopus, Google Scholar, Scientific Electronic Library Online (Scielo), published in Portuguese in the last 10 years. **Case report and**

**Conclusion:** Based on the objective of this study and the literary findings, it showed that knowledge about OPC is essential for dental professionals, which plays a fundamental role in the diagnosis of oral cancers, requiring incisional biopsy. From the case described, it became evident the need for a partnership with a licensed psychologist, for the psychological preparation of the patient who will receive the news of the positive result for oropharyngeal cancer and the follow-up of the same throughout the treatment.

**Keywords:** Oropharyngeal Cancer. Biopsy. Diagnosis. Prevalence. HPV.

### Introduction

The National Cancer Institute (INCA) estimates that for each year of the 2020/2022 triennium, 15,190 new cases of oral and oropharyngeal cancer are diagnosed in Brazil (11,180 in men and 4,010 in women). Oral cancer is a serious and growing public

health problem in Brazil, corresponding to 4% of all types of cancer, ranking eighth among tumors that affect men and eleventh among women [1].

In the global context, oropharyngeal cancer (OPC) is in the sixth position of cancer incidence, after colorectal cancer, breast, prostate, bladder, and cervix. The most frequent form, about 90%, is squamous cell carcinomas. This type of cancer can originate in the lip, oral cavity, pharynx, and larynx. Risk factors associated with oropharyngeal cancer are tobacco, alcohol, and poor oral hygiene [2].

However, other conditions such as human papillomavirus (HPV) infection and oral dysbiosis are gaining prominence. Pre-malignant and malignant lesions are related to several factors that can be monitored by the health professional. These professionals are also in an ideal position to influence and guide patients on healthy lifestyle habits that contribute to preventing or treating metabolic-endocrine syndromes associated with the development of precancerous diseases and cancer located in different organs [3].

Therefore, the present study aimed to present a clinical case report of oropharyngeal cancer in an octogenarian patient, to present the main diagnostic and treatment procedures in advanced age.

### Methods

#### Study Design

The present study was elaborated according to the rules of the CARE case report (<https://www.care-statement.org/>). An analysis was made of articles published in scientific search engines: PubMed, Embase, Scopus, Google Scholar, Scientific Electronic Library Online (Scielo), published in Portuguese in the last 10 years, and research on the website [www.inca.gov.br](http://www.inca.gov.br).

The descriptors were used: *Oropharyngeal cancer; Higher prevalence of oropharyngeal cancer; Intraoral physical examination; Incisional biopsy; Anatomopathological examination.*

### Ethical Approval and Informed Consent

The present study followed the recommendations of the Research Ethics Committee from Brazil and obtained the Informed Consent Form according to CNS/CONEP Resolution 466/12.

### Case report

#### Patient Information and Clinical Findings, Timeline, Diagnostic Assessment, Therapeutic Intervention, and Follow-up

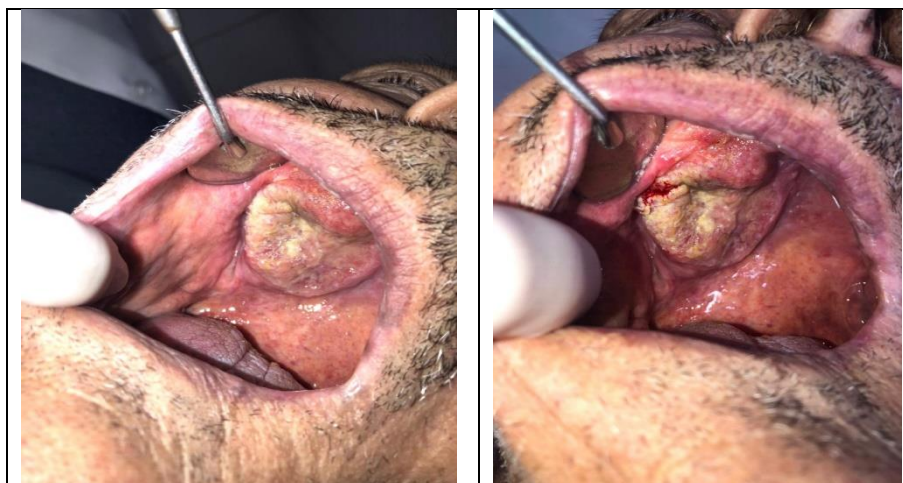
Male patient, white skin, retired, 81 years old, sought care reporting that the prosthesis was uncomfortable. He complained of sharp pain and difficulty in eating. He was even trying to use a Superior Total Prosthesis, as he thought the problem was derived from the poor adaptation of the Prosthesis, which left the affected area extremely sensitive and bleeding. He

reported being a smoker since he was 12 years old.

Intraoral physical examination showed an extensive ulcerated lesion on the right palate and upper alveolar ridge (**Figure 1**). Because of these findings, the hypothesis of Malignant Lesion was formulated. An incisional biopsy was performed in the affected area one week after the patient sought care and the material was sent for anatomopathological examination. The diagnostic conclusion was moderately differentiated, keratinizing, and invasive squamous cell carcinoma, and it was then clarified that it was an OPC.

The conduct adopted, in this case, was first to partner with a licensed Psychologist to, together with the Dental Surgeons responsible, prepare the patient to receive the results of the anatomopathological examination and to accompany this patient throughout the treatment, was also passed for the patient to stop smoking, which is of paramount importance for the success of the treatment. That same day, this patient was referred to the Oral Oncology Center (COB) located at the Faculty of Dentistry at the Araçatuba-SP campus (FOA-UNESP).

**Figure 1.** Clinical aspect of the extensive ulcerated lesion in the right region of the palate and superior alveolar ridge.



### Discussion

According to the case report of the present study, oral cancer can affect various anatomical structures such as lips, gums, cheeks, palate, tongue, and adjacent regions, but the most common location of oropharyngeal cancer is in the pharynx. The main risk factors are smoking and excessive alcohol consumption, however, there are other risk factors such as exposure to the sun without protection and infection by the HPV virus (human papillomavirus) [4].

In this context, despite a steady decline in the

incidence of head and neck cancer in recent decades, the incidence of OPC has shown an overall increase that is largely attributable to the increase in HPV infections [4]. Habbous et al. [5] estimated that the prevalence of HPV-positive OPC in 6 Canadian centers increased from approximately 47% in 2000 to approximately 74% in 2012.

In the United States, the incidence of HPV-positive OPC was reported to have increased by 225% between 1988 and 2004 [4] and now constitutes up to 90% of all new OPC cases. Patients are generally younger and healthier (median age at diagnosis: 54 years) [6], with

high socioeconomic status and minimal or no history of smoking, marking a shift in the cause of the traditional older patient with a long history of substance abuse, tobacco and alcohol [7-9]. A combination of inherent genetic factors, exposure to HPV, and behavioral risk factors (including an increased number of sexual partners, earlier onset of sexual activity, and, in men, a history of anogenital warts) are thought to be contributors [10]. In this regard, the HPV-positive option is also associated with a more favorable prognosis when treatment is started early.

In this scenario, according to the World Health Organization (WHO), HPV is today the most common sexually transmitted infection worldwide [11]. Although most cases go unreported, the US Centers for Disease Control and Prevention estimates that up to 75% of the US population of reproductive age has been exposed to HPV [12]. At any given time, 6.9% of subjects have detectable levels of HPV in the oral cavity or oropharynx. The transmission of HPV occurs mainly through sexual contact, and orogenital contact can lead to oral or oropharyngeal HPV infection [9].

Although most infections are asymptomatic and clear spontaneously within the first 2 years, at least 15 of more than 100 viral types are characterized by high oncogenicity [13]. The highest proportion of HPV-related cancer cases are HPV 16-positive and are therefore amenable to preventive methods such as vaccination [9,14].

Still, the main symptoms of OPC include pain in the oral cavity that does not stop, wounds with peculiar characteristics that have a foul odor, pain, difficulty speaking or swallowing, exudate, bleeding, and non-healing of the lesion for more than 15 days, lump or swelling, on the cheek, red or white spots on the gingival part, tongue, or mucosa [15]. HPV-associated oropharyngeal squamous cell carcinoma has been identified as a distinct entity within head and neck squamous cell carcinoma [16].

In this context, the traditional standard treatment for all patients, except those with early-stage OPC, is cisplatin-based combination chemoradiotherapy. This treatment is very effective in HPV-positive patients, improving their quality of life of patients. Dry mouth and loss of taste are nearly universal, but the most significant is dysphagia, with about 20% to 30% of patients never returning to full oral feeding and requiring a permanent percutaneous gastrostomy tube [17].

Thus, the quality of life implications of treatment side effects for younger affected patients with excellent prognosis resulted in several studies that aimed to de-escalate treatment while preserving antitumor efficacy. Two approaches have been adopted to reduce the

morbidity of chemoradiation, which has been the mainstay of treatment for over 25 years. One approach involves decreasing the dose or minimizing the radiation field, or both. The other approach reintroduced surgery in the treatment of this disease. However, newer techniques that rely on robotic surgery have come into vogue. In contrast to neck approaches, the new transoral procedures are not nearly as invasive, with recent systematic reviews indicating fewer post-surgical swallowing impairments [18,19].

Published studies by the Radiation Therapy Oncology Group rejected cetuximab as an equivalent treatment to cisplatin, showing similar rates of toxicity but lower survival results with cetuximab. Given these findings, downscaling should only be performed within a clinical trial [20]. In the post-treatment phase, all patients with head and neck cancer require surveillance for cancer recurrence and second primaries and have problems related to voice and swallowing. According to a recent meta-analysis of 1,366 patients, OPC survivors, compared with head and neck cancer patients in general, face clinically significant deteriorations in xerostomia, dysphagia, and mastication 1 year after treatment [21].

Finally, evidence of an association between OPC and HPV continues to mount, and vaccination has the potential to reverse this trend. Furthermore, because of delays of up to 40 years after infection before the disease sets in, clinicians are now tasked with recognizing the manifestations of this slow-growing epidemic. These cancers usually present in younger, healthier individuals who may not have the typical risk factors for head and neck cancer and therefore may go unnoticed. The mainstay of treatment is combined chemoradiotherapy, and the survival prognosis is good, but many patients will have long-term experience with the debilitating side effects of the treatment [1]. An interdisciplinary team approach with special attention to psychosocial problems represents the cornerstone for achieving the best outcomes and quality of life during treatment and survival periods [2].

## Conclusion

Based on the objective of this study and with the literary findings, it showed that knowledge about OPC is essential to the dental professional, which they play a fundamental role in the diagnosis of oral cancers, requiring incisional biopsy. From the case described, it became evident the need for a partnership with a licensed psychologist, for the psychological preparation of the patient who will receive the news of the positive result for oropharyngeal cancer and the follow-up of the same throughout the treatment.

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## Funding

Not applicable.

## Ethics approval

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## Informed consent

The patient signed the consent form.

## Data sharing statement

No additional data are available.

## Conflict of interest

The authors declare no conflict of interest.

## Similarity check

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## References

1. Buexm LA, Soares-Lima SC, Brennan P, Fernandes PV, de Souza Almeida Lopes M, Nascimento de Carvalho F, Santos IC, Dias LF, de Queiroz Chaves Lourenço S, Ribeiro Pinto LF. Hpv impact on oropharyngeal cancer patients treated at the largest cancer center from Brazil. *Cancer Lett.* 2020 May 1;477:70-75. doi: 10.1016/j.canlet.2020.02.023. Epub 2020 Feb 19. PMID: 32087309.
2. Tanaka TI, Alawi F. Human Papillomavirus and Oropharyngeal Cancer. *Dent Clin North Am.* 2018 Jan;62(1):111-120. doi: 10.1016/j.cden.2017.08.008. Epub 2017 Oct 7. PMID: 29126488.
3. Chimenos-Küstner E, Marques-Soares MS, Schemel-Suárez M. Consideraciones sobre etiopatogenia y prevención del cáncer orofaríngeo [Aetiopathology and prevention of oropharyngeal cancer]. *Semergen.* 2019 Oct;45(7):497-503. Spanish. doi: 10.1016/j.semerg.2019.03.004. Epub 2019 May 10. PMID: 31079896.
4. Du J, Nordfors C, Ahrlund-Richter A, et al. Prevalence of oral human papillomavirus infection among youth, Sweden. *Emerg Infect Dis.* 2012;18:1468-71. doi: 10.3201/eid1809.111731.
5. Habbous S, Chu KP, Lau H, et al. Human papillomavirus in oropharyngeal cancer in Canada: analysis of 5 comprehensive cancer centres using multiple imputation. *CMAJ.* 2017;189:E1030-40. doi: 10.1503/cmaj.161379.
6. Elrefaey S, Massaro MA, Chiocca S, Chiesa F, Ansarin M. HPV in oropharyngeal cancer: the basics to know in clinical practice. *Acta Otorhinolaryngol Ital.* 2014;34:299-309.
7. Deschler DG, Richmon JD, Khariwala SS, Ferris RL, Wang MB. The "new" head and neck cancer patient—young, nonsmoker, nondrinker, and HPV positive: evaluation. *Otolaryngol Head Neck Surg.* 2014;151:375-80. doi: 10.1177/0194599814538605.
8. Gallagher ST, Deal AM, Ballard D, Mayer DK. Oropharyngeal cancer and HPV: measuring knowledge and impact among survivors of head and neck cancer. *Clin J Oncol Nurs.* 2017;21:321-30. doi: 10.1188/17.CJON.321-330.
9. Pytynia KB, Dahlstrom KR, Sturgis EM. Epidemiology of HPV-associated oropharyngeal cancer. *Oral Oncol.* 2014;50:380-6. doi: 10.1016/j.oraloncology.2013.12.019.
10. Majchrzak E, Szybiak B, Wegner A, et al. Oral cavity and oropharyngeal squamous cell carcinoma in young adults: a review of the literature. *Radiol Oncol.* 2014;48:1-10. doi: 10.2478/raon-2013-0057.
11. World Health Organization (WHO) Human papillomavirus (HPV) and cervical cancer [Web page] Geneva, Switzerland: who; 2018. [Available at: [https://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-\(hpv\)-and-cervical-cancer](https://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-(hpv)-and-cervical-cancer); cited 17 February 2019] [Google Scholar]
12. Cates JR, Wong T, Semenciw R, Creel L. Human papillomavirus: a hidden epidemic in the United States [Web article] Washington, DC: Population Reference Bureau; 2001. [Available at: <https://www.prb.org/humanpapillomavirusahiddenedemicintheunitedstates>; cited 17 February 2019]
13. Aimagambetova G, Azizan A. Epidemiology of HPV infection and HPV-related cancers in Kazakhstan: a review. *Asian Pac J Cancer Prev* 2018; 19:1175-80.

14. Bann D, Deschler D, Goyal N. Novel immunotherapeutic approaches for head and neck squamous cell carcinoma. *Cancers (Basel)* 2016;8:E87. doi: 10.3390/cancers8100087.
15. Soria-Céspedes D, Canchola Aguilar G, Lara-Torres CO, Sánchez-Marle JF, Hernández-Peña RE, Ortiz-Hidalgo C. Carcinoma epidermoide orofaríngeo metastásico en ganglios linfáticos cervicales asociado a los subtipos 16 y 45 del virus del papiloma humano (VPH). Estudio clínico, morfológico y molecular de dos casos [Metastatic oropharyngeal squamous cell carcinoma in cervical lymph nodes associated to HPV infection type 16 and 45; clinical, morphological and molecular study of two cases]. *Gac Med Mex.* 2013 Nov-Dec;149(6):673-9. Spanish. PMID: 24276191].
16. You EL, Henry M, Zeitouni AG. Human papillomavirus-associated oropharyngeal cancer: review of current evidence and management. *Curr Oncol.* 2019 Apr;26(2):119-123. doi: 10.3747/co.26.4819. Epub 2019 Apr 1. PMID: 31043814; PMCID: PMC6476447.
17. Dixon L, Ramasamy S, Cardale K, et al. Long term patient reported swallowing function following chemoradiotherapy for oropharyngeal carcinoma. *Radiother Oncol.* 2018;128:452–8. doi: 10.1016/j.radonc.2018.06.014.
18. Dawe N, Patterson J, O'Hara J. Functional swallowing outcomes following treatment for oropharyngeal carcinoma: a systematic review of the evidence comparing trans-oral surgery versus non-surgical management. *Clin Otolaryngol.* 2016;41:371–85. doi: 10.1111/coa.12526.
19. Hutcheson KA, Holsinger FC, Kupferman ME, Lewin JS. Functional outcomes after TORS for oropharyngeal cancer: a systematic review. *Eur Arch Otorhinolaryngol.* 2015;272:463–71. doi: 10.1007/s00405-014-2985-7.
20. Mehanna H, Robinson M, Hartley A, et al. on behalf of the DE-ESCALATE HPV trial group. Radiotherapy plus cisplatin or cetuximab in low-risk human papillomavirus-positive oropharyngeal cancer (DE-ESCALATE HPV): an open-label randomised controlled phase 3 trial. *Lancet.* 2019;393:51–60. doi: 10.1016/S0140-6736(18)32752-1.
21. Høxbroe Michaelsen S, Grønhøj C, Høxbroe Michaelsen J, Friberg J, von Buchwald C. Quality of life in survivors of oropharyngeal cancer: a systematic review and meta-analysis of 1366 patients. *Eur J Cancer.* 2017;78:91–102. doi: 10.1016/j.ejca.2017.03.006.

