



Nasopharyngeal Cancer: Dentist's Role in the Assessment and Early Diagnosis

Dounia Sarfi, Manal Bouya*, Sidi Mohammed Bouzoubaa and Ihsane Ben Yahya

Department of Medicine and Oral Surgery, Universite Hassan II Casablanca Faculte de Medecine Dentaire, Casablanca, Morocco

***Corresponding Author:** Manal Bouya, Department of Medicine and Oral Surgery, Universite Hassan II Casablanca Faculte de Medecine Dentaire, Casablanca, Morocco.

DOI: [10.31080/ASDS.2024.08.1907](https://doi.org/10.31080/ASDS.2024.08.1907)

Received: August 28, 2024

Published: September 05, 2024

© All rights are reserved by

Manal Bouya, et al.

Abstract

Nasopharyngeal cancer is a significant health problem due to its relatively high incidence. It may present first to the dental profession as facial pain or swelling, neck masses, difficulty of mouth opening or speech and swallowing. The general dentist should be able to recognize the signs and symptoms as it is essential in order to lead to an early correct diagnosis, and to avoid delaying the diagnosis and initiation of treatment of the cancer. Here we report a case of nasopharyngeal cancer that was presented first and diagnosed during a routine dental consultation.

Keywords: Nasopharyngeal; Cancer; Dental Care

Introduction

Cavum cancer is a significant health problem due to its relatively high incidence among cancers of upper respiratory tract. It has a special place in all upper respiratory tract cancers due to its particular geographical distribution and its relative frequency in young people.

The most frequent histological type is represented by non-keratinized squamous cell carcinoma, the prototype of which corresponds to undifferentiated carcinoma of the nasopharyngeal type commonly known as UCNT (Undifferentiated Carcinoma of Nasopharyngeal Type) which is closely related to infection with the Epstein Barr virus (EBV).

It has benefited greatly from the contribution of nasopharyngeal endoscopy and imaging for early diagnosis and precise extension workup.

This cancer has a high rate of lymph node and visceral metastases which explains a part of treatment failures despite marked radiosensitivity.

The deep situation of the cavum, its difficult access to physical examination, symptoms often misleading due to the invasion of neighboring structures explain diagnostic difficulties.

We report here a rare case of cavum cancer that was diagnosed during a consultation with the dentist, thanks to symptoms that did not correlate with dental pain.

Observation

A 35-year-old man was referred the Department of Oral Surgery with chief complaints of neck swelling and facial pressure dating from a few weeks. The patient revealed that he regularly smokes hookah for about eight years and that he had history of nasal impact trauma. He also reported a sensation of nasal obstruction with episodes of epistaxis for 2 weeks and a feeling of a face heaviness 6 months prior.

Extraoral examination revealed mild soft non-mobile, non-fluctuant swelling of the left malar region, a deviation of the nose and the nasal septum to the right side and a single unilateral 60mm×50mm firm, non-mobile and painless cervical lymphadenopathy was revealed on palpation (Figure 1,2).



Figure 1: Extraoral photography showing a mild swelling of the malar region and posterior cervical mass.



Figure 2: Extraoral photography showing deviation of the patient's nose to the right side.

Intraoral examination revealed a limitation of mouth opening and an extended cavity in the upper left wisdom tooth.

In front of these informations, and since the symptoms presented by our patient did not exactly correlate with a tooth necrosis, we decided to push the examination further.

A CBCT was prescribed and revealed mucosal thickening in the left sinus the floor of which does have an intimate relation with the mesiobuccal root of the third maxillary (Figure 3).

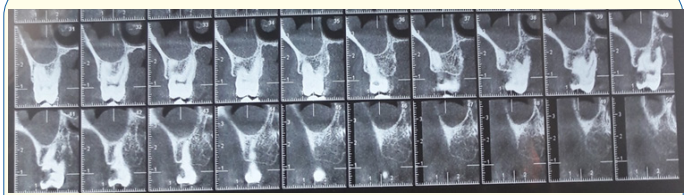


Figure 3: Coronal cuts of CBCT showing mucosal thickening of the left maxillary sinus.

The diagnosis of necrosis of the wisdom tooth with related sinusitis was mentioned, but it did not explain the symptoms presented by the patient. Other diagnosis like tuberculosis and nasopharyngeal cancer were proposed.

It was then decided to refer to patient to an otorhinolaryngologist for further investigations.

A biopsy of the nasopharynx was performed and concluded the presence of an undifferentiated malignant proliferation leading to discussion of undifferentiated lymphoma or carcinoma.

The immunohistochemistry concluded an undifferentiated carcinoma of nasopharyngeal type (UCNT).

Discussion

The nasopharynx is a trapezoid chamber located posterior to the nasal choanae; it extends inferiorly to the lower border of the soft palate. The superior border is formed by the basisphenoid and basiocciput. The posterior border is made up of the prevertebral fascia of the atlas and axis [1].

Nasopharyngeal cancer is highly endemic to Southern China, Malay and Indonesian population along with people from Southeast Asia. The rate varies from a minuscule value of less than 1 per 100000 individuals in non-endemic areas to a high value of 25 to 30 and 15 to 20 males and females per 100000 individuals in endemic areas, respectively [2].

Its etiology is complex and is not yet completely understood. Carcinogenesis is however known to be associated with high titers of EBV.

Another major risk factor is a diet consisting of foods containing nitrosamines (N-nitrosamine) that is believed to be the associated carcinogen, and long-term exposure is associated with a two-fold

increase in risk of developing the disease. Other risk factors are consumption of preserved foods, herbal teas, slow-cooked soups, family history of nasopharyngeal cancer, chronic rhinosinusitis and alcohol, and smoking habits; however, such links were often inconsistent between studies [3,4].

In some epidemiologic studies, has been established as a predisposing factor as well. In areas where EBV is not endemic, like the United States, smoking and alcohol are found to be risk factors [5].

Due to the anatomical structure and location of the nasopharynx, nasopharyngeal tumors may initially grow without producing any signs or symptoms.

The clinical symptoms and signs correlate with the involved anatomical regions. Possible routes of primary tumour invasion are anterior spread into the nasal cavity, pterygoid fossa, and maxillary sinuses; lateral involvement beyond the pharyngobasilar fascia into the parapharyngeal and infratemporal spaces; and base of skull, clivus, and intracranial structures when the disease extends posteriorly and superiorly.

Hence, depending on the anatomical structures affected, clinical presentation varies accordingly [3].

- **Nodal involvement:** One of the most common symptoms is an enlarged neck node. Lymph nodes of the apex of the posterior triangle and the upper jugular are most commonly involved initially. Supraclavicular nodes are the last to be involved and are a sign of advanced disease. It was the chief complaint of our patient [2,3].
- **Nasal symptoms:** Are a result of nasal extension of the primary tumor. A subset of patients present with nasal symptoms ranging from nasal obstruction, blood-tinged nasal discharge, epistaxis and cacosmia. Around 80% of the individuals suffering from the disease present with nasal symptoms, including our patient [2].
- **Otological symptoms:** Associated with the lateroposterior extension of the tumour to the paranasopharyngeal space and dysfunction of the Eustachian tube, i.e., conductive hearing loss, effusions and fullness, and tinnitus. We did not observe any otological symptom in our case [2,6].
- **Neurological symptoms:** Associated with the superior intracranial extension of the tumor, signs of cranial nerve palsies resulting in headache, diplopia, facial pain, and numbness. Our patient had no neurological signs [2,3].

The clinical proximity of nasopharynx to the oral cavity makes dentists actively involved in the diagnosis of NPC. It may present first to the dental profession as facial pain or swelling, neck masses, difficulty in speech and swallowing, or temporomandibular disorders [7,8].

Dentists, in daily practice, must be aware and put in mind all clinical features of nasopharyngeal cancer to ensure early diagnosis and refer the patient for appropriate management [9].

They must adopt a rational diagnostic approach in order to remain vigilant towards misleading symptoms. For our case, the symptoms of maxillary sinusitis of endodontic origin could have distorted the diagnosis if we had not been appalled by the other uncommon symptoms such as epistaxis and the sensation of nasal obstruction.

For this reason, when analyzing the history and the elements of the clinical examination, the dentist must be skeptical towards any doubtful sign, for example, a patient with complaint of epistaxis should have an ear, nose, and throat examination by a physician. Suspicious neck masses, especially unilateral, which can be identified at routine dental head and neck examinations should trigger suspicion about the presence of a malignant etiology and should be referred to a qualified medical professional for further investigation.

Therefore, the clinical reasoning must be done in a way that any unusual sign or symptom that does not correlate with a certain diagnosis should be of concern and alert the dentist to a more serious etiology and therefore encourage him to push the further investigations.

Dentists also should maintain a high index of suspicion when treatment aimed at another etiology, such as TMD or dental infection, fails to eradicate the patient's complaint [9,10].

Conclusion

In their daily practice, dentists should be able to track down malignant abnormalities by following basic principles of investigation and treatment. A detailed medical and social history, meticulous routine head and neck examination and follow-up should be respected in order to screen suspicious and malignant lesions and ensure prompt and appropriate care for patients.

Acknowledgement

Dounia Sarfi and Manal Bouya contributed equally.

Bibliography

1. Jeyakumar A., *et al.* "Review of Nasopharyngeal Carcinoma". *Ear, Nose and Throat Journal* 85.3 (2006): 168-184.
2. Shah AB., *et al.* "Nasopharyngeal Carcinoma". In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing (2021).
3. Chua MLK., *et al.* "Nasopharyngeal carcinoma". *The Lancet* 387.10022 (2016): 1012-1024.
4. Nestic V., *et al.* "Risk factors for the occurrence of undifferentiated carcinoma of nasopharyngeal type: A case-control study". *Srpski Arhiv Za Celokupno Lekarstvo* 138.1-2 (2010): 6-10.
5. Sinha S and Gajra A. "Nasopharyngeal Cancer". In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing (2021).
6. Wei WI and Sham JST. "Nasopharyngeal carcinoma". *Lancet Lond Engl* 9476 (2005): 2041-2054.
7. Kadrianto TH and Noegroho HS. "Dentists' Role in Diagnosis and Management of Oral Involvement of Nasopharyngeal Carcinoma: Serial Case Report". *Journal of Dentistry Indonesia* 22.1 (2003): 29-36.
8. Hauser MS and Boraski J. "Oropharyngeal carcinoma presenting as an odontogenic infection with trismus". *Oral Surgery, Oral Medicine, Oral Pathology* 61.4 (1986): 330-332.
9. Mackie AM., *et al.* "Nasopharyngeal carcinoma: the role of the dentist in assessment, early diagnosis and care before and after cancer therapy". *Oral Oncology* 36.5 (2000): 397-403.
10. Reiter S., *et al.* "Nasopharyngeal carcinoma mimicking a temporomandibular disorder: A case report". *Journal of Oral Medicine and Pain* 20 (2006): 74-81.