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## Case Report

# A closer look at nasopharyngeal cancer: A typical case report ☆☆☆

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## ABSTRACT

Nasopharyngeal cancer is a relatively rare cancer type, it is most common in southeast Asia and north Africa, it can be presented with nonspecific symptoms, making it challenging to diagnose. However, it remains a significant cancer to diagnose and treat early, as it can be aggressive and difficult to manage in its advanced stages. We report the case of a 48-year-old man who presented with isolated neck swelling, which was later found to be caused by multiple lymphadenopathies and suspected nasopharyngeal neoplasm. Imaging confirmed a large mass in the nasopharynx and bilateral cervical adenopathy. The patient underwent neoadjuvant chemotherapy and concomitant chemo-radiation, which resulted in a partial response. However, residual tumor persisted in the nasopharynx and cervical lymph nodes, and the patient requires cervical dissection. This case highlights the importance of early diagnosis and prompt treatment of nasopharyngeal cancer.

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## Introduction

Nasopharyngeal cancer is a rare malignancy that develops within the nasopharynx. The incidence of nasopharyngeal cancer varies significantly by geographic location, with higher rates in some parts of the world such as Southeast Asia, North Africa, and Alaska [1].

The nonspecific nature of the symptoms associated with nasopharyngeal cancer can lead to a delay in diagnosis, which can be detrimental to the patient's prognosis. The most common symptoms are persistent nasal obstruction or congestion, nosebleeds, hearing loss, difficulty swallowing, sore throat, and enlarged lymph nodes in the neck. Patients may present with a combination of these symptoms, which may be

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confused with other conditions, such as allergies, infections, or other benign causes [2].

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## Case report

A 48-year-old Moroccan man presented for consultation with a 3-month history of an isolated swollen neck, without any neurologic, otologic, rhinologic, or general symptoms. Upon physical examination, multiple lymphadenopathies were discovered, and a nasopharyngeal neoplasm was suspected. The initial nasopharynx MRI revealed a 55×50×44 mm mass. The MRI also revealed bilateral cervical lymphadenopathies, the larger one with a total size of 135×71 mm on the right side and 132×60 mm on the left side (Fig. 1A1–A2). A biopsy of the nasopharynx was performed, and the histopathological report revealed a cluster of syncytial cells, associated with finely nucleated vesicular cells, surrounded by a lymphoid stroma, which suggested a nasopharyngeal undifferentiated carcinoma (Fig. 1B). Initial evaluation work-up included an 18-Fluorodeoxyglucose (18-FDG) PET scan, which showed no sign of distant extension (Fig. 1A3). The patient was classified as T4N3M0 based on the American Joint Committee on Cancer (AJCC) staging, 8th edition. Following the decision of the Head & Neck Tumor Board, the patient underwent neoadjuvant chemotherapy and concomitant radio-chemotherapy (CRT). Post neoadjuvant chemotherapy response was evaluated by a nasopharyngeal MRI and an 18-FDG PET scan (Fig. 1C). Both scans revealed a partial response, following the Response Evaluation Criteria in Solid Tumors (RECIST) 1.1 criteria. Upon completion of CRT, residual tumor persisted in the nasopharynx and cervical lymph nodes, and the patient currently plans to undergo cervical dissection (Fig. 1D).

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## Discussion

Nasopharyngeal cancer can be challenging to diagnose due to its nonspecific symptoms. This case emphasizes the importance of considering nasopharyngeal cancer in patients with cervical lymphadenopathies.

This case report illustrates a typical presentation of nasopharyngeal cancer in a 48-year-old man who presented with cervical adenopathies. Histology and imaging confirmed a large mass in the nasopharynx and bilateral cervical adenopathy, leading to the diagnosis of T2N3M0 nasopharyngeal cancer.

The management of nasopharyngeal cancer is a complex process that requires a multidisciplinary approach. The treatment of nasopharyngeal cancer may involve the collaboration of head and neck surgeons, radiation oncologists, and medical oncologists. Each specialist brings unique skills and expertise to the management of this complex disease [3].

The treatment approach for nasopharyngeal cancer depends on various factors, including the stage and extent of the disease, as well as the patient's overall health and medical history. Treatment options include surgery, radiation therapy,

and chemotherapy, which may be used alone or in combination depending on the specific circumstances of each patient.

Radiation therapy is a common treatment for nasopharyngeal cancer, particularly for patients with advanced disease or those who are not surgical candidates. Radiation therapy may be delivered externally or internally, depending on the location and extent of the tumor. In some cases, radiation therapy may be used in combination with chemotherapy to improve the effectiveness of the treatment [4]. In fact, chemoradiotherapy has become the standard of care for locally advanced nasopharyngeal cancer. This treatment approach combines chemotherapy and radiation therapy to maximize the efficacy of the treatment and improve outcomes for patients. Radiation therapy is the mainstay of treatment for nasopharyngeal cancer, with the goal of delivering a high dose of radiation to the tumor while sparing the surrounding healthy tissues. Chemotherapy is often used in conjunction with radiation therapy as a way to sensitize the tumor cells to radiation and increase the effectiveness of the treatment. Chemotherapy can also help to target cancer cells that have spread beyond the primary tumor site. In clinical trials, chemoradiotherapy has been shown to significantly improve overall survival and disease-free survival in patients with locally advanced nasopharyngeal cancer. For example, a large randomized trial showed that concurrent chemoradiotherapy improved overall survival compared to radiation therapy alone. Another trial found that adding chemotherapy to radiation therapy improved locoregional control and overall survival in patients with advanced nasopharyngeal cancer. The combination of chemotherapy and radiation therapy does have some potential side effects, including damage to healthy tissues, such as the skin and mucous membranes, and gastrointestinal toxicity. However, these side effects can often be managed with appropriate supportive care and monitoring.

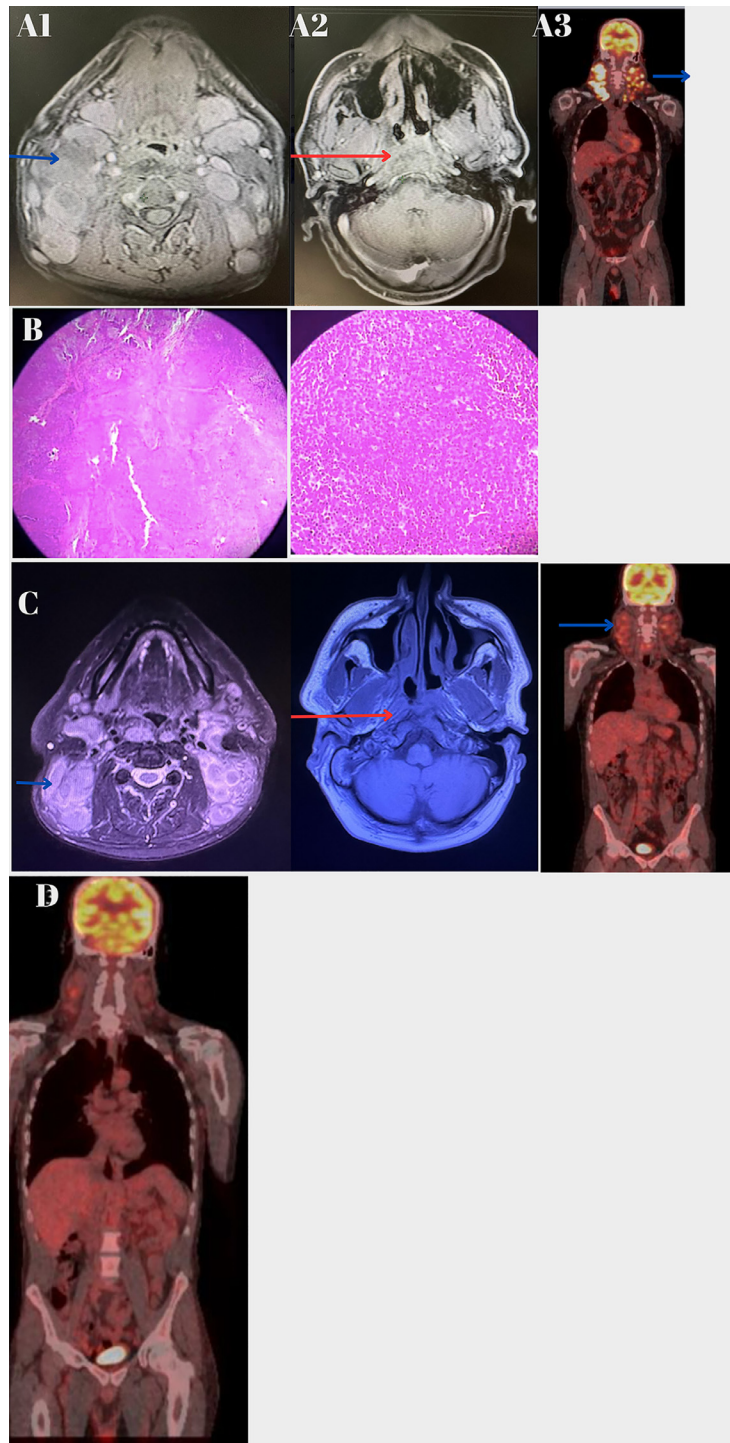
Despite the benefits of chemoradiotherapy in the management of locally advanced nasopharyngeal cancer, there are still some challenges associated with this treatment approach. For example, some patients may be unable to tolerate the treatment due to comorbidities or other factors. Additionally, treatment-related toxicities can be a concern, and careful monitoring is required to manage these potential side effects [5].

To sum up, chemoradiotherapy has become the standard of care for locally advanced nasopharyngeal cancer. This treatment approach has been shown to significantly improve outcomes for patients and should be considered as a first-line treatment option.

However, careful monitoring and supportive care are important to manage potential side effects and ensure the best possible outcomes for patients.

Surgery may be an option for patients with localized relapsed nasopharyngeal cancer or after lymph node residue after first-line treatment combining radiation and chemotherapy.

Chemotherapy can additionally be used as a neoadjuvant treatment prior to radiation therapy or surgery, and as an adjuvant treatment following radiation therapy or surgery. Chemotherapy may also be used as a palliative treatment for patients with advanced or recurrent disease.



**Fig. 1.** – (A) An MRI image of the cavum tumor (A1) associated with bulky bilateral cervical adenopathies (A2), A3 showing image of the hypermetabolic on the tumor areas on initial TEP CT with FDG. (B) Nasopharyngeal cancer on histology: characterized by the presence of malignant epithelial cells that are arranged in a diffuse, nonkeratinizing pattern. The tumor cells are typically small to medium in size and have a round to oval shape, with little cytoplasm and a large, hyperchromatic nucleus. (C) Postneoadjuvant chemotherapy, and pre RCC imaging by MRI and TEP-CT showing residual tumor to the nasopharynx, and bilateral lymphnodes (D) post-therapeutic imaging by TEP-CT showing the residual bilateral lymphadenopathies.

Immunotherapy is an emerging treatment option for nasopharyngeal cancer. This type of therapy is designed to help the immune system recognize and attack cancer cells, and can be used in combination with other treatments like chemotherapy and radiation therapy.

In nasopharyngeal cancer, immunotherapy has shown promise in early clinical trials. One approach is to target the PD-1 and PD-L1 proteins, which are involved in suppressing the immune system's response to cancer cells. By blocking these proteins, immunotherapy drugs called checkpoint inhibitors can help activate the immune system's ability to recognize and attack cancer cells. Clinical trials investigating the use of checkpoint inhibitors in nasopharyngeal cancer have shown promising results. In 1 trial, patients with advanced nasopharyngeal cancer who received the checkpoint inhibitor pembrolizumab had an overall response rate of 22.2%, with some patients achieving complete response. In another trial, the combination of pembrolizumab and chemotherapy resulted in a longer progression-free survival compared to chemotherapy alone [5].

Overall, the management of nasopharyngeal cancer requires a personalized treatment approach that is tailored to the specific needs of each patient. The multidisciplinary team of specialists works together to develop an individualized treatment plan that offers the best possible outcomes for the patient. Close follow-up and monitoring are also important to ensure that the patient continues to receive the best possible care and support throughout their journey with nasopharyngeal cancer [6].

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## Conclusion

The management of nasopharyngeal cancer is complex and requires a multidisciplinary approach, including the collaboration of head and neck surgeons, radiation oncologists, and medical oncologists. Treatment options include surgery, radiation therapy, and chemotherapy, which may be used according to recent recommendations for nasopharyngeal cancer. This case report highlights the need to raise awareness about nasopharyngeal cancer, to diagnose it reasonably early before it reaches locally advanced stages that will require increasingly heavy treatments.

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## Ethics approval and consent to participate

Our local ethics committee delivered the ethics approval required for publishing this case.

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## Patient consent

The authors have complete written informed consent for the submission and publication of this case report. The patient has provided explicit permission for the use of their medical information, including any relevant photographs or diagnostic images.

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