

Preliminary Study on Clinical Types of Primary Nasopharyngeal Carcinoma

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ABSTRACT

Nasopharyngeal carcinoma is a malignant tumor that is prevalent in South China, and in Southeast Asia [1]. Common clinical presentations include a cauliflower-like neoplasm in the nasopharynx with a rough mucosal surface. However, a few cases have also presented with normal mucosa with submucosal growth and invasion of cancer cells, such that multiple biopsies indicated that the mucosa was normal. Other cases have comprised normal or slightly raised mucosa under gross observation and reported as normal on both computed tomography and magnetic resonance imaging.

INTRODUCTION

Different types of nasopharyngeal carcinomas have different clinical symptoms and appearance. Here, we report 3 cases of nasopharyngeal carcinoma.

CASE PRESENTATION

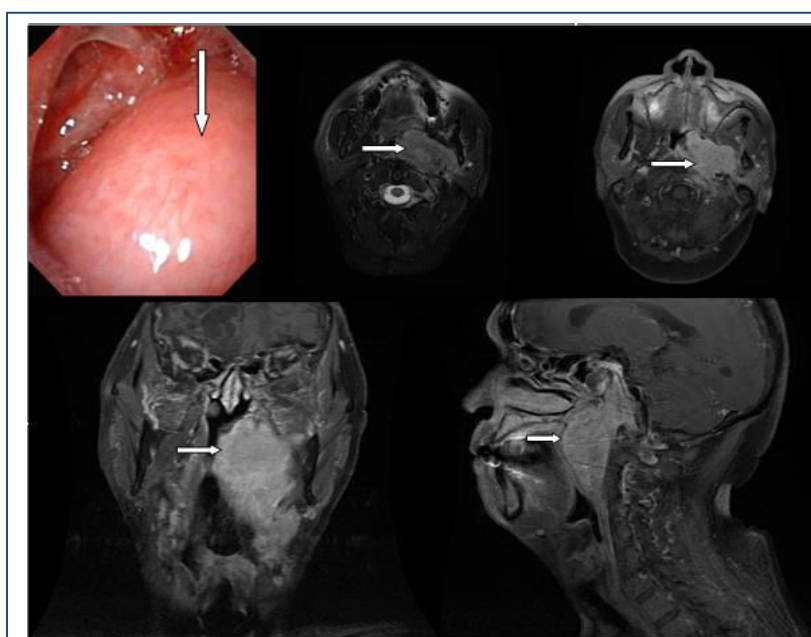


Figure 1: A light red neoplasm in the left nasopharynx with a smooth surface, with the right side approaching the nasal septum and the anterior part reaching the choana.

Case 1: A 61-year-old man complained of left nasal congestion and hoarseness for 5 months. Physical examination revealed a light red neoplasm in the left nasopharynx

with a smooth surface, with the right side approaching the nasal septum and the anterior part reaching the choana.

Biopsy of the nasopharyngeal mass was performed under general anesthesia with a nasal endoscope. During the surgery, smooth mucosa was observed on the surface of the mass in the left nasopharynx. Striated muscle tissues were exposed after the mucosa and submucosal tissues were dissected. Off-white tumor tissues were observed after the muscle was separated, which were pathologically confirmed to be squamous cell carcinoma.

Case 2: A 65-year-old man complained of tinnitus in the right ear for 2 months, a right-sided headache for 1 month, and diplopia for 1 week. Physical examination revealed a slightly plump right nasopharynx with a smooth surface. No other significant abnormalities were observed.

Biopsy of the mass in the right nasopharynx was performed under general anesthesia with a nasal endoscope. During the surgery, smooth mucosa was observed on the surface of the right nasopharynx and choana. The mucosa and submucosal tissues were dissected to the anteroinferior wall of the sphenoid sinus and off-white tumor tissues invading the bone were observed, which were pathologically confirmed to be squamous cell carcinoma.

On magnetic resonance imaging (MRI), thickening was observed in the right wall, roof, and posterior wall of the nasopharynx. The right torus tubarius, longus capitis muscle, longus colli muscle, and right parapharyngeal space were invaded by cancer cells. The right cavernous sinus was partially embedded. The clival bone was damaged. The right chamber of the sphenoid sinus and the right choana were invaded.

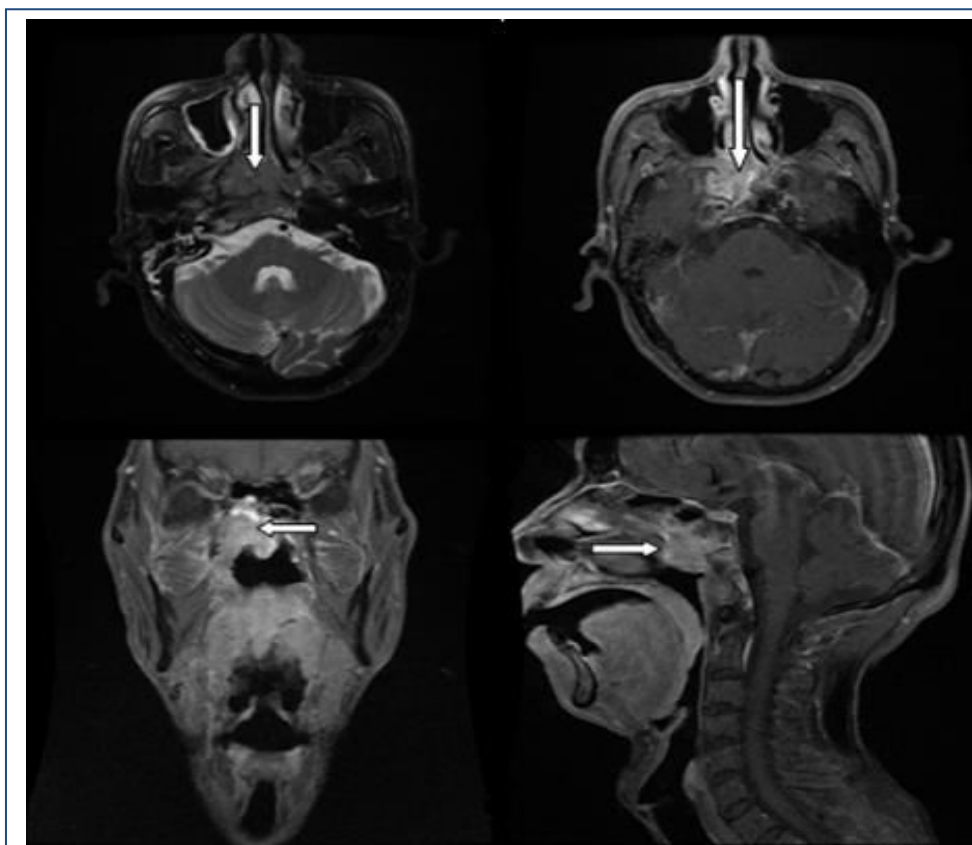


Figure 2: A slightly plump right nasopharynx with a smooth surface. No other significant abnormalities were observed. On Magnetic Resonance Imaging (MRI), thickening was observed in the right wall, roof, and posterior wall of the nasopharynx. The right torus tubarius, longus capitis muscle, longus colli muscle, and right parapharyngeal space were invaded by cancer cells. The right cavernous sinus was partially embedded. The clival bone was damaged. The right chamber of the sphenoid sinus and the right choana were invaded.

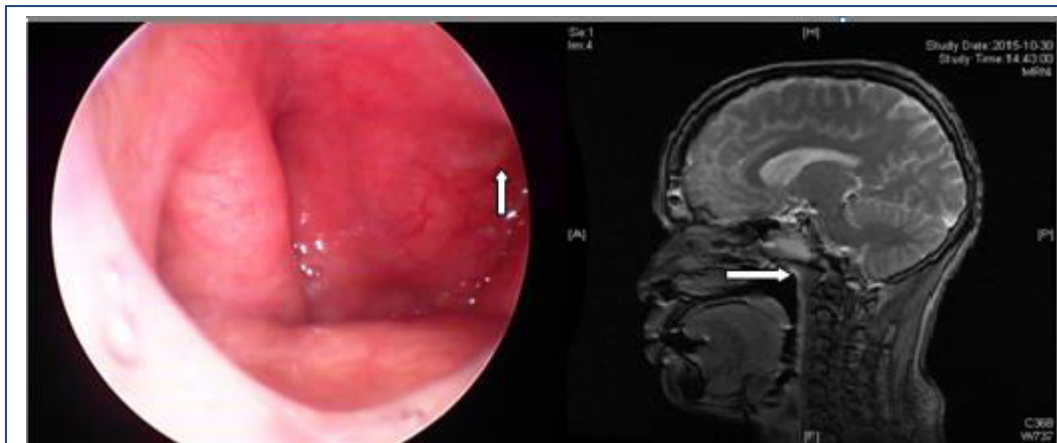


Figure 3: A smooth nasopharyngeal surface. No other significant abnormalities were observed. On Magnetic Resonance Imaging (MRI), there was no typical lesion.

Case 3: A 65-year-old man complained of masses on both sides of the neck detected 1 month ago. Physical examination revealed a smooth nasopharyngeal surface and multiple palpable enlarged lymph nodes on both sides of the neck with a hard texture and poor mobility. No other significant abnormalities were observed.

Biopsy of tissues from the nasopharyngeal roof was performed under local anesthesia through nasal endoscopy. The tissues were pathologically confirmed to be squamous cell carcinoma.

DISCUSSION

According to the NCCN guidelines for head and neck cancers, the classification of nasopharyngeal carcinoma depends on the TNM staging system. Yunfei xia, etc subdivided NPC into four types: Type I (no primary and regional recurrence and no distant metastasis), Type II (primary or regional recurrence and no distant metastasis), Type III (no primary and regional recurrence, and distant metastasis), and Type IV (primary or regional recurrence, and distant metastasis) [2]. Radiation therapy is the preferred choice for nasopharyngeal carcinoma [3]. The treatment options mostly based on physical examination, nasal endoscopic examination, Computed Tomography (CT), and MRI. We believe that based on physical examination, nasal endoscopic examination, Computed Tomography (CT), and MRI, nasopharyngeal carcinoma can be divided into the exophytic, submucosal, and micro types, and the classification would conducive to the determination of treatment options.

Most nasopharyngeal carcinomas belong to the exophytic type in which a neoplasm with a rough surface can be observed in

the nasopharynx at the early stage. Hence, there is little difficulty in the diagnosis of this type. The micro and submucosal types are less common. In the first two patients with nasopharyngeal carcinoma described in this report, the mucosal surface of the nasopharynx was normal, but the tumors had invaded the bone and jugular foramen. However, even though multiple biopsies of the nasopharyngeal mucosa had been performed for both patients, the pathological findings consistently indicated normal mucosal epithelium. The cancer tissues were only observed after the mucosa, submucosal layer, and longus capitis muscle were dissected. The growth and invasion patterns of this type of tumor are completely different from common tumors. Hence, it is difficult to detect them at an early stage, which easily leads to misdiagnosis, which will delay diagnosis and treatment and result in a poor prognosis. Therefore, special attention should be paid to them. Further studies are required to determine whether this type of tumor has different biological characteristics than the squamous cancer cells of common nasopharyngeal carcinomas, and more clinical cases are needed to determine whether the treatment should be the same as that used for exophytic nasopharyngeal carcinoma.

As shown in case 3, neither nasal endoscopy nor MRI could locate the primary lesion. Therefore, biopsy could only be performed by inferring the location of the primary lesion based on the metastatic lymph nodes. The authors speculate that most patients with metastatic squamous cell carcinoma in upper deep cervical lymph nodes, for whom the primary lesion cannot be located, have micro nasopharyngeal carcinoma.

Because the primary lesion may be gradually eliminated by the surrounding immune cells, routine tissue biopsy of the corresponding sites should be performed.

Currently, the accepted principles of clinical treatment for nasopharyngeal carcinoma are as follows: for patients at Stage I (T1N0M0), i.e., with tumors confined to the nasopharynx, not invading the pharyngobasilar fascia, and without metastatic cervical lymph nodes, radiotherapy alone should be administered. The current consensus on the treatment for other stages is that disease-free survival and overall survival can only be improved with concurrent chemoradiotherapy. No consensus has yet been reached on the effects of induction chemotherapy and adjuvant chemotherapy [4,5,6].

CONCLUSION

The treatment for nasopharyngeal carcinoma is concurrent chemoradiotherapy predominated by radiotherapy. The chemotherapy regimen is chosen on the basis of the pathological stage of the carcinoma, while the radiotherapy is chosen mainly based on the results of nasopharyngeal MRI, CT, and nasopharyngoscopy. We classified nasopharyngeal carcinoma into the exophytic, submucosal, and micro types, which will assist in the choice of radiotherapy for nasopharyngeal carcinoma, especially for micro nasopharyngeal carcinoma, for which the choice of treatment regimen still requires further discussion and investigation.

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CONFLICT OF INTEREST

The authors declare that they have no competing interests. No writing assistance was used in the production of this manuscript.

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