

# Unusual presentation of nasopharyngeal carcinoma

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## ABSTRACT

Nasopharyngeal carcinoma (NPC) is an Epstein-Barr Virus (EBV)-associated cancer which is the fifth most common cancer in Malaysia. The gold standard of diagnosis is by the endoscopic biopsy from the Fossa of Rosenmuller. However, early recognition and treatment are difficult due to the wide clinical spectrum of NPC. We report a case of NPC mimicking sphenoid wing meningioma, with no fossa of Rosenmuller mass manifested on endoscopy and computer tomography scan.

**Keywords:** Lymphoepithelial carcinoma, parotid gland, head and neck cancer

## INTRODUCTION

The usual presentation of nasopharyngeal carcinoma (NPC) is subtle and can present with neck mass, ear fullness or epistaxis. To date there has been no reported case of NPC masquerading as sphenoid wing meningioma on imaging. We report our experience with this patient presenting as sphenoid wing meningioma and being referred initially to neurosurgical department. Diagnosis of NPC was not clinically suspected as the computer tomography (CT) scan showed the finding of sphenoid wing meningioma. We aim to raise awareness about this potential pitfall in diagnosing NPC.

## CASE REPORT

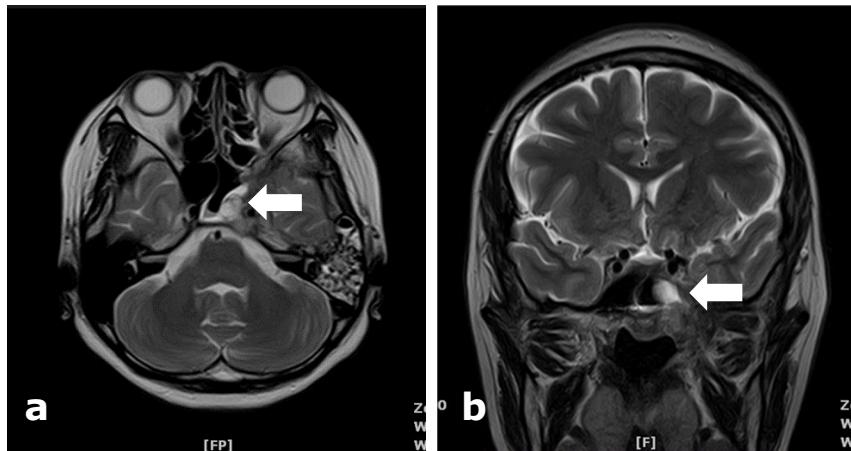
A 45-year-old Chinese lady with no co-morbidity was referred to the neurosurgical clinic with the complaints of diplopia and left hearing impairment of three months duration. Clinical examination revealed a left eye ptosis with cranial nerve (CN) VI palsy and pares-

thesia of the left side of the face over the V1, V2 and V3 (CN V involvement) distributions. There was no palpable cervical lymph node.

A computed tomography (CT) scan revealed findings consistent with a left sphenoid wing meningioma with infratemporal extension. There were also several left neck subcentimetre level II lymph nodes. The mass was noted in the left sphenoid region with sphenoid bone destruction and infratemporal extension to reach the sellar, paracavernous region and suspected optic canal involvement. Magnetic Resonance Imaging (MRI) brain demonstrated features consistent with a sphenoid wing meningioma with possible left optic nerve involvement. (Figs. 1)

In view of tumour extension into the sphenoid bone, the patient was referred to the Otorhinolaryngology Department for assessment and possible endoscopic biopsy of the suspected tumour. A rigid nasoendoscopy was performed in the clinic which revealed a mass with smooth surface, obliterating the left middle meatus. Both the Fossa of

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Rosenmüller (FOR) were clear of any mass. In view of high incidence of NPC in Malaysia, especially in Chinese ethnicity, deep punch biopsies were taken from the mass and both FOR. Further examination revealed unilateral mild conductive hearing loss of left ear due to middle ear effusion.

Unexpected, the histopathological examination came back an undifferentiated NPC. The diagnosis of NPC stage IVA ( $T_4N_1M_0$ ), was made and she was then referred to oncology department for chemotherapy and radiotherapy. The patient was given one cycle of Cisplatin-5 Flououracil and then followed with Intensity-modulated radiation therapy (IMRT) 35 fractions/70 Gy with concurrent cisplatin for six cycles. She is currently under our close follow up.

## DISCUSSION

NPC can remain insidious when the primary tumour is relatively small and confined to the epithelial lining of nasopharynx. This tumour is frequently seen in the FOR, also known as the posterolateral recess which is the most common site of origin for NPC. However, it can invade the nearby structures by its aggressive nature.

Delay in seeking professional treatment is common as in the early stages, there are no or minimal and nonspecific symptoms. Symptoms of NPC often correlate with the size and position of the tumour within the nasopharynx, expansion of the tumour beyond the nasopharynx and the site of metastasis.

The most common presentation of NPC is a painless upper neck mass or masses. However, tumour expansion or invasion into the adjacent structures are important as symptoms manifestations vary depending of structures affected. Extension into the nasal cavity may present as unilateral nasal obstruction in the early presentation, affecting the nasal quality of voice and epistaxis. Extension to the Eustachian tube may cause the aeration disruption of the middle ear, possibly causing otalgia and otitis media with effusion.<sup>2</sup> Extension into base of skull may present as headache, facial pain and cranial nerve palsy. Therefore it is important for clinicians to be aware of the varied manifestations.

Endoscopic examination and endoscopic biopsy still remain the gold standard to diagnose NPC. In earlier stages of NPC, endoscopic examination may reveal a small bulge to slight fullness or asymmetry of the FOR

may be present. There is a possibility that clinicians might miss up the fullness of FOR via endoscopic examination. Vlantis *et al.* reported an objective endoscopic score of the abnormality of the nasopharynx to predict the likelihood of NPC.<sup>3</sup> When the diagnosis of NPC is strongly cannot be ruled out, radiological approach and endoscopic biopsy are recommended regardless the appearance of the FOR. In our case, we had proceed with punch biopsy of the FOR bulge given the high incidence of NPC in our local setting especially among the Chinese. This had result in unwanted delay had biopsies was not taken if the clinicians did not consider the diagnosis of NPC.

NPC can occasionally been found in unusual location, although most often seen with tumours that have been previously irradiated, such unusual sites can also occur with primary tumour. Incomplete irradiation portal coverage of NPC can possibly result in hematogenous spread to a distal site. Radiation induced obstruction of lymphatic channels with resultant opening of collateral lymphatic drainage may also lead to lymphatic spread in a different pattern. The incidence of local regional and systemic recurrence is associated with the tumour stage, with tumours in the advanced stages at presentation being more likely to have a late recurrence in unusual location.<sup>4</sup>

In our patient, there was history of previous radiotherapy or co-morbidity and

presented with left eye ptosis, cranial nerves V and VI involvement with no palpable cervical lymph nodes and bilateral FOR clear of any mass. These findings are considered as atypical for NPC. The diagnosis of NPC in our case is unexpected and the initial suspicion was a sphenoid wing meningioma. The diagnosis of NPC would have been easily missed if biopsy of bilateral FOR was not taken.

In conclusion, we report a case of NPC mimicking a sphenoid wing meningioma. High suspicion is required especially in highly prevalent regions and in patients with atypical presentation, biopsies of the FOR is recommended even when no obvious tumour are seen.

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