

Submandibular mass as a rare presentation of advanced nasopharyngeal carcinoma

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Abstract

Cervical lymphadenopathy is a common presentation of nasopharyngeal carcinoma (NPC). It can be present in the classical location of the level II or VI lymph nodes or at any other levels of the lymph nodes in the neck. NPC should be suspected when a patient presents with cervical lymphadenopathy and conductive hearing loss. A thorough endoscopic assessment of the nasopharynx should be performed to rule out this radiotherapy-curable disease at its early stage.

Introduction

As Nasopharyngeal Carcinoma(NPC) endemic in the region. The attending physicians should have a high index of suspicion when a patient presents with a neck mass even though the location of the neck mass does not seem to correspond with the primary area of drainage from the nasopharynx. A referral to the ear, nose and throat(ENT) surgeon is warranted for a complete endoscopic examination.

Case Summary

An 80-year-old Malay man was initially seen by a private general practitioner before being referred to an ENT clinic. He presented with a 2-week history of left submandibular swelling (Figure1), which was insidious in onset and painless in nature. It did not progressively increase in size. There was associated otalgia but no other ear complaints. He denied any nasal blockage, discharge, epistaxis or postnasal drip. There were no throat or neuro-ophthalmic symptoms such as diplopia, blurred vision, or restricted eyeball movement. There was no report of other neck masses, fever, loss of weight, respiratory symptoms, contact with tuberculosis patients, or family history of cancer. He was an ex-smoker.

An examination revealed an elderly man with left submandibular mass with the dimension of 1 cm x 1 cm. It was firm, mobile in all directions and non-tender. Both tympanic membranes were dull with a loss of light reflex. The tuning fork test showed evidence of bilateral conductive

hearing loss. However, there was no evidence of spontaneous nystagmus. An anterior rhinoscopy, oropharyngeal examination and laryngoscopy revealed essentially normal findings. His cranial nerves' function was grossly normal. Examination of respiratory, cardiovascular and gastrointestinal systems did not reveal any abnormalities. Tuberculosis work-up was conducted and it revealed negative results.

He underwent endoscopic examination of the nasopharynx. Nasoendoscopy showed obliteration of the left fossa of Rosenmuller (Figure 2). A punch biopsy of the lesion was taken. The histological examination revealed a non-keratinising, well-differentiated carcinoma of the nasopharynx. A computerised tomographic (CT) scan from the base of his skull to the upper abdomen was conducted, which revealed a heterogeneous, enhancing mass at the left fossa of Rosenmuller with complete occlusion of the openings of the Eustachian tubes and distortion of the left torus tobarius. The scan also depicted multiple subcentimetre lymph nodes with evidence of bone, intracranial and lung metastases. The final diagnosis was (NPC) stage IV, based on the American Joint Committee on Cancer, due to the presence of distant metastases.

He was referred to the clinical oncologist for treatment. Concurrent chemo-radiotherapy was started but the patient defaulted treatment.



Figure 1. Left Submandibular mass measuring 1cm x 1cm



Figure 2: Nasoendoscopic examination revealed an obliterated fossa of Rosenmüller mass (in red circle) impinging on the left Eustachian tube (ET) opening (TT is torus tubarius)

Discussion

Nasopharyngeal carcinoma is a rare neoplasm in Western countries. However, it is considered endemic among South-East Asian populations. In Malaysia, majority of the cases (75%) presented at stage III/IV, with neck mass being the most common presenting feature (42%). The tumour arises from a hidden area behind the nasal cavity, known as fossa of Rosenmüller (FOR). The symptom is often non-specific, and therefore most patients are not diagnosed until the advanced stage.²

In NPC, retropharyngeal nodes and level II nodes (upper deep cervical node/upper one-third of the sternocleidomastoid region) are commonly affected, and are regarded as the first echelon of lymph node in NPC.³ Level Ib (the submandibular triangle), as seen in this case, is regarded as low nodal risk. Thus, in terms of treatment, this level is not usually recommended to be included in the radiotherapy field as a routine prophylactic irradiation for NPC.⁴ The presence of lymph nodes in level Ib also carries no significant increase in hazard ratio compared to other levels except level IV.⁵

In this case, the presence of conductive bilateral hearing loss should increase the index of suspicion for NPC, thus warranting further endoscopic examination. In a classical case of NPC, unilateral conductive hearing loss with nasal symptoms (e.g., nasal blockage or epistaxis) may present together with cervical lymphadenopathy.⁶ The cause of conductive hearing loss (CHL) is mainly due to accumulation of fluid in the middle ear, as evidenced by the appearance of the dull tympanic membrane and loss of light reflex, in addition to a positive tuning fork test. This is due to the occlusion of the nasopharyngeal end of the Eustachian tube. However, this pathognomonic symptom is usually unilateral. In this case, accumulation of fluid in both middle ears can be due to a mild upper respiratory tract infection, allergy or anatomically bulky torus tubarius. If the tumour mass has filled the whole nasopharyngeal area, bilateral CHL can be expected. Thus, an adult presenting with a neck mass and CHL (unilateral or bilateral) should be highly suspected of having NPC until proven otherwise. In a primary care setting, a simple hearing assessment such as a free field voice test and tuning fork test are very helpful in picking up asymptomatic hearing loss among the elderly. In a study looking at the clinical presentation among NPC patients in Sarawak, only 0.5% complained of reduced hearing compared to the 80.8% who had cervical lymphadenopathy.⁷ A patient may not notice hearing impairment because it may only be a slight reduction, superimposed with long-standing sensorineural hearing loss (especially in the elderly), or it just did not bother the patient compared to the huge neck mass and nasal symptoms.

A submandibular or any persistent lymph node in an elderly man without any obvious source of infection requires a thorough ENT assessment. Even with negative scope findings, the condition still warrants an ultrasonography of the neck and fine needle aspiration for cytology to rule out any grave pathology. Other differential diagnoses include tuberculosis (cold abscess), a metastatic node from another lesion or an occult primary, cervical lymphadenitis and submandibular gland pathology such as a tumour or sialadenitis (inflammation of the salivary gland). An open biopsy of the neck node is not recommended,

as it can cause dissemination of the carcinoma to the skin and change the tumour stage. The most invasive yet safe procedure is fine needle aspiration for cytology (FNAC).

In conclusion, submandibular level Ib lymphadenopathy is a rare presentation of NPC. In the absence of acute inflammatory symptom, NPC should be suspected, especially if the patient is elderly. A referral to an ENT surgeon for a thorough work-up is of paramount importance.

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