

## Retropharyngeal abscess. A rare presentation of nasopharyngeal carcinoma

MARTIN WAI PAK, F.R.C.S.(ED.), KA LAI CHAN, M.B.B.S., CHARLES ANDREW VAN HASSELT, M.MED. (OTOL)

### Abstract

Early symptoms of nasopharyngeal carcinoma (NPC) can often be deceptive and confusing. Most patients with nasopharyngeal carcinoma present at an advanced stage with metastatic cervical nodes present at the time of diagnosis. A deep neck abscess as the presenting feature has not been reported. We report two cases of nasopharyngeal carcinoma which presented with retropharyngeal abscesses and persistent lymphadenopathy. These two patients illustrate that refractory lymphadenopathy, despite adequate treatment of the associated infection, should prompt a search for underlying disease. The relationship between nasopharyngeal carcinoma and retropharyngeal abscess is discussed.

**Key words:** Abscess, retropharyngeal; Nasopharyngeal neoplasms; Complications

### Introduction

Nasopharyngeal carcinoma (NPC) is a tumour which shows marked racial and geographical variation. It is uncommon in most parts of the world except Southern China, North Africa, Canada, Alaska and Greenland (Mallen and Shandro, 1974; Lanier, 1977; Nielsen *et al.*, 1977; Simon and Shanmugaratnam, 1982; Hu, 1985; Muir *et al.*, 1987). The overall standardized incidence rate for NPC in Southern China is 27.5 per 100,000 per year for males and 11.2 for females. Typically this disease affects a relatively young population. In endemic regions, the age-specific incidence rates for both sexes begin to rise at the early age of 20, reaching a plateau between 35–60 years and declining thereafter (Huang, 1991).

The clinical presentation of nasopharyngeal carcinoma is unique. Most patients present at an advanced stage when symptoms are the manifestation of disease spread. In general, nearly half of the patients present with metastatic neck swellings. Unilateral nasal complaints are encountered in one third of patients with aural symptoms in 17 per cent. Neurological complaints tend to occur at a relatively late stage (Skinner *et al.*, 1991). The presentation of this malignancy with a deep neck abscess has not been reported in the literature. We present two cases of nasopharyngeal carcinoma brought to our notice by retropharyngeal abscesses as their presenting event.

### Case report

#### Case 1

A 45-year-old male presented with a two-day history of sore throat and a painful neck swelling. On admission, the patient was running a high grade fever and a 3 cm, tender, right jugulodigastric lymph node was noted. The right lateral wall of the oropharynx and the arytenoid were swollen but the nasopharynx was spared. A computerized

tomographic (CT) scan of the neck showed a retropharyngeal abscess which extended between C2 and C4 levels (Figure 1). After external drainage of the abscess, his general condition improved and he was discharged from hospital one week later. Culture of the aspirate yielded *Staphylococcus aureus*.

At follow-up the jugulodigastric lymph node remained enlarged. Six weeks later, another 1 cm node was noted behind the jugulodigastric lymph node. A transnasal pharyngolaryngoscopy was performed to rule out recurrence of the abscess. The findings showed no infection but there was a 5 mm nodule in the right side of nasopharynx



FIG. 1

Retropharyngeal abscess demonstrated as a low-density, contrast-enhanced soft tissue swelling in the retropharyngeal space (arrow). A heterogenous, rim-enhancing lymph node (curved-arrow), indicating inflammation with central necrosis is situated anterior to the left carotid artery.

From the Division of Otorhinolaryngology, Department of Surgery, The Chinese University of Hong Kong, Prince of Wales Hospital, Hong Kong.

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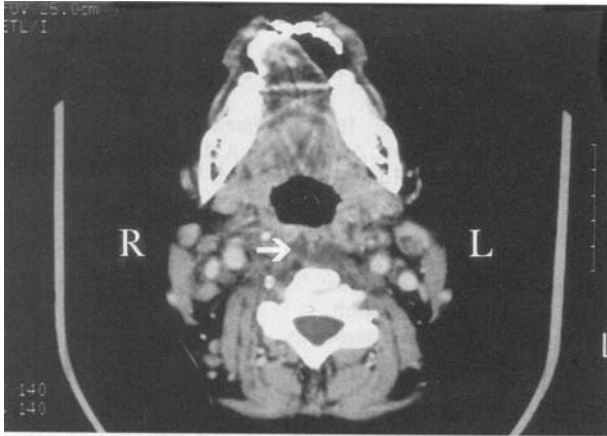


FIG. 2

Computerized tomographic scan demonstrating a retropharyngeal abscess (arrow) with multiple cervical lymph nodes.

which had not been noticed previously. The lesion was biopsied and histological examination confirmed a diagnosis of undifferentiated carcinoma (T2pN2M0) (Ho, 1978). The patient was treated with radiotherapy and there has been no recurrence 30 months after the treatment.

#### Case 2

A 19-year-old kindergarten teacher, who had a history of systemic lupus erythematosus (SLE), receiving long-term prednisolone, cyclosporin A and azathioprine, presented to the Accident and Emergency Department with a three-week history of sore throat and bilateral painful neck swellings. On examination, she was febrile and bilateral tender cervical lymph nodes measuring 3 cm in diameter were noted. Examination revealed a left peritonsillar swelling extending from the oropharynx to the pyriform fossa. The nasopharynx was free of disease. A CT scan of the neck showed a retropharyngeal abscess with bilateral reactive lymphadenopathy (Figure 2). An emergency drainage of the abscess was performed. The patient improved steadily after drainage and by day six, both lymph nodes had shrunk in size to 1.5 cm each.

Two weeks later, she was re-admitted with a fever and persistent neck swellings. On examination, a friable mass in the left nasopharynx and posterior choana was identified. No recurrence of the neck abscess was noted. Since the mass had not been previously noticed, it was initially thought to be a pyogenic granuloma secondary to nasotracheal intubation for the abscess drainage procedure. Biopsy of the mass confirmed undifferentiated carcinoma of the nasopharynx (T3aN1M0). The patient was subsequently treated with external beam irradiation and there has been no evidence of recurrence two years after the treatment.

#### Discussion

The presenting symptoms of patients with nasopharyngeal carcinoma can often be deceptive and confusing, to both doctors and patients, until the tumour reaches a relatively advanced stage. In general, early detection of tumour is an exception rather than a rule. It is recognized that only one in five patients with NPC has an early tumour at the time of diagnosis, while about three quarters have already had regional lymph node involvement at presentation (Skinner *et al.*, 1991). The nature of nodal metastasis from nasopharyngeal carcinoma is characteristic from two

aspects. Firstly, the location of metastatic lymph nodes carries a prognostic significance. Teo has indicated that patients with metastatic nodes at higher cervical levels carry a more favourable prognosis than those with lower nodal involvement (Teo, 1991). Secondly, it is recognized that sequential involvement occurs with superior cervical nodes affected first, followed by the lower cervical nodes (Sham *et al.*, 1990). These studies may indicate that neck node involvement in this disease is by orderly spread down the neck, which explains the poorer prognosis when nodes are present in the lower neck. However, involvement of the retropharyngeal lymph nodes in the early metastatic process has largely been disregarded. The presence of asymptomatic retropharyngeal lymph nodes in NPC patients have been documented radiologically with the incidence varying from 29.1 per cent to 89 per cent (Chong *et al.*, 1995; Chua *et al.*, 1997; Lam *et al.*, 1997). Owing to the proximity of the retropharyngeal space to the nasopharynx, the tumour would logically metastasize via lymphatics first to the node of Rouvière in the retropharyngeal space before spreading to the cervical lymph nodes. In the two reported cases, we believe that the retropharyngeal lymph nodes were already involved by tumour which then became infected with subsequent abscess formation.

Infection coexistent with malignancy is not uncommon. This complicates the clinical picture and may lead to delayed diagnosis. In these two cases the diagnosis was less evident as the metastatic lymphadenopathy was present before the primary tumour became conspicuous. However, these cases emphasize the principle that persistent cervical lymphadenopathy following adequate treatment of an infectious disease should alert clinicians to the possibility of a hidden head and neck malignancy. As nasopharynx, tonsil, base of tongue, thyroid and hypopharynx are known to be the sources of occult metastatic cervical nodes, regular surveillance of these regions is necessary (Martin and Romieu, 1952). Accordingly, in areas endemic for nasopharyngeal carcinoma, repeated nasopharyngeal examination is mandatory. Furthermore, as IgA anti-viral capsid antigen (VCA) and anti-early antigen (EA) titres of Epstein-Barr virus are tests of high sensitivity and specificity for NPC, these serological investigations, in combination with clinical and histological examination, are valuable for the early detection of the disease in difficult circumstances (Henle and Henle, 1976).

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Address for correspondence:  
Professor C. A. van Hasselt,  
Division of Otorhinolaryngology,  
Department of Surgery,  
Prince of Wales Hospital,  
Shatin, New Territories,  
Hong Kong.

Fax: (852) 26466312