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Clinical Record

Nasopharyngeal carcinoma presenting as carotidynia in an 18-year-old patient

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Abstract

Introduction: Nasopharyngeal carcinoma can present with a variety of symptoms the most common being painless cervical lymph node metastases, epistaxis and conductive hearing loss.

Case report: We report a case of an 18-year-old male patient presenting to the ENT department with left sided carotidynia – severe pain in the neck radiating up to his ear. He had a small, exquisitely tender lump just below the bifurcation of the left common carotid artery. After the appropriate investigations he was diagnosed with nasopharyngeal carcinoma.

Discussion: In a literature search on Medline and Pubmed we found no reported cases of nasopharyngeal carcinoma presenting with carotidynia, nor was carotidynia ever found to be associated with nasopharyngeal carcinoma.

Conclusion: We believe that this is the first reported case of such a presentation of nasopharyngeal carcinoma.

Key words: Nasopharynx; Parapharyngeal Neoplasms; Carcinoma; Neck Pain

Introduction

Carotidynia (also known as carotodynia) is defined as an episodic, usually unilateral neck pain often radiating upwards along the mandible to the ear or eye. The cardinal physical sign is tenderness on palpation of the common carotid artery. Maximal tenderness is usually found at the bifurcation of the common carotid. It has been associated with many conditions, of which benign causes such as migraine and viral infections are the most common. It has never been associated with nasopharyngeal carcinoma.

Nasopharyngeal carcinoma is an uncommon malignancy. It affects a relatively younger age group than almost any other head and neck neoplasm. There is a bimodal distribution[1] with increased incidence in teenagers and young adults and then again in the 45–55 age group.

Presentation is usually at an advanced stage[2] commonly with a painless neck mass indicating cervical lymph node metastases. Other common modes of presentation are nasal obstruction, epistaxis, and symptoms of eustachian tube dysfunction such as unilateral conductive hearing loss, otalgia and tinnitus. The presentation of this malignancy with carotidynia has never been described. In this paper we present such a case.

Case report

The patient was 18 years old when he presented to the ENT emergency clinic with a three-week history of a painful left sided neck swelling with radiation of the pain up to the left side of the face. Examination revealed a 3×2.5 cm tender immobile mass in area III of the left side of the neck. Palpation of the mass caused radiation of the pain up the neck to the left side of the face. He had no significant past medical or surgical history. He used to smoke about 20 cigarettes a day for a couple of years.

White cell count, haemoglobin level, platelet count, erythrocyte sedimentation rate and lactate dehydrogenase were all normal. A blood picture was reported as having 'few reactive lymphocytes'. Flexible endoscopy at presentation was unremarkable.

An ultrasound scan of the neck showed two hypoechoic shadows in area III. The bigger measured 12.5 mm and the smaller 5.6 mm and both were reported as being probably lymph nodes (Figure 1). The thyroid, submandibular and parotid glands were normal. A computed tomography (CT) scan of the neck and upper chest (Figure 2) was carried out and was reported initially as a few enlarged cervical lymph nodes with no other significant abnormalities. Based on these investigations a diagnosis of carotidynia due to an inflammatory lymph node was made.

Meanwhile, treatment with oral steroids and analgesia was ineffective. An excision biopsy of the lesion was then undertaken as it had become too painful for the patient. A 5 cm oval lesion just below the bifurcation of the common carotid artery was found. Histology confirmed the lump was a lymph node, and was positive for metastatic undifferentiated non small cell carcinoma, consistent with a nasopharyngeal primary.

The CT films (Figure 1) were studied again and were found to reveal an irregularity of the wall of the nasopharynx. A subsequent examination of the post-nasal space under anaesthesia revealed a left sided ulcer in the fossa of Rosenmuller. Biopsy revealed nasopharyngeal carcinoma of Regaud's type. He was treated with combination radiotherapy and chemotherapy.

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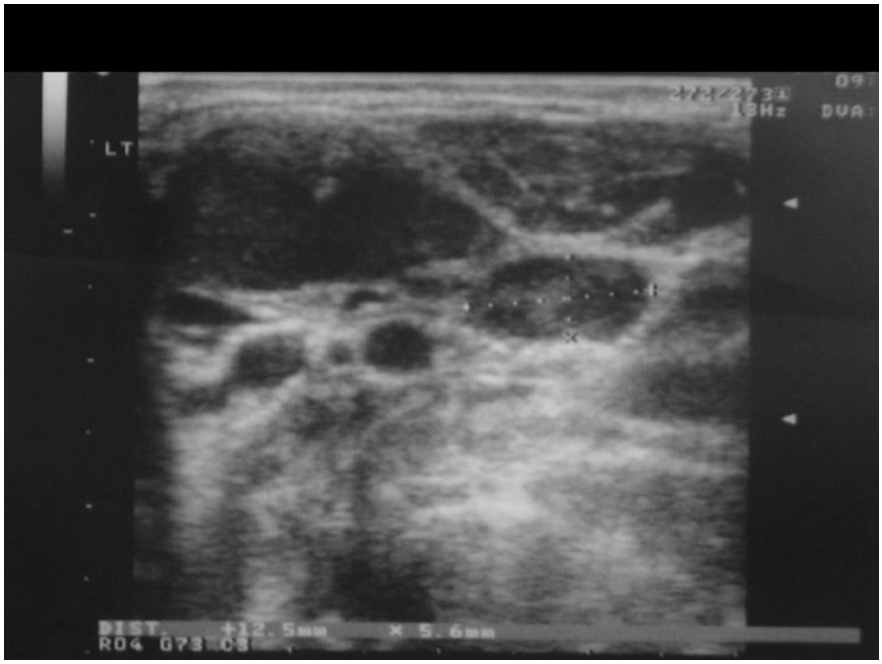

FIG. 1
The enlarged cervical lymph nodes (being measured) visible on ultrasound scan of the neck.

Discussion

In a literature search on Medline and PubMed there were no reported cases of nasopharyngeal carcinoma presenting with carotidynia. The key words used were 'nasopharyngeal carcinoma', 'nasopharyngeal cancer', 'carotidynia', and 'carotodynia'.

Nasopharyngeal carcinoma is a common condition among southern Chinese where the incidence is 27.5 per 100 000 persons per year for males and 11.2 for females.[3] Approximately one half of patients present with a mass in the neck.[4] Other presenting complaints include nasal complaints such as obstruction, bloody discharge and epistaxis and aural symptoms of unilateral deafness as a consequence of eustachian tube obstruction and secretory otitis media. Neurological complications with cranial nerve palsies due to disease in the skull base occur relatively late.

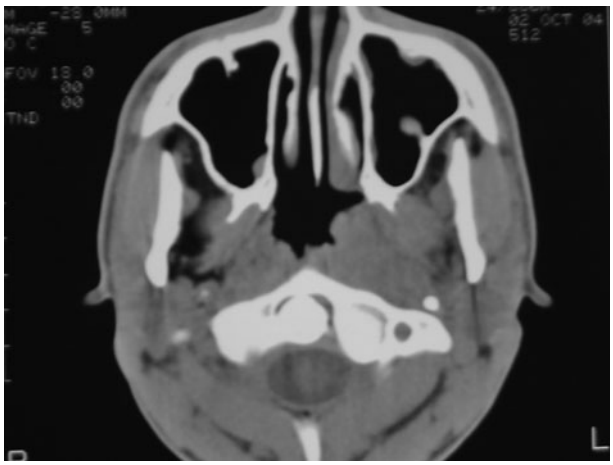

FIG. 2
The irregularity of the nasopharyngeal wall is seen.

One retrospective study of the clinical presentation of 122 patients (almost all being Malay or Chinese) with confirmed nasopharyngeal carcinoma shows the frequency of occurrence of clinical features as presenting complaints.[5] Neck swelling was the presenting complaint in 66 per cent of these patients, epistaxis in 31 per cent, and decreased hearing in 22 per cent. Other less common modes of presentation were ocular symptoms, tinnitus, cranial nerve palsy, headache and nasal obstruction. The neck swelling (representing cervical lymphadenopathy) was not reported to be painful in any of the patients. A similar study of 100 Chinese patients showed similar results.[6] A review of 12 young patients (with a mean age of 16 years) diagnosed with nasopharyngeal carcinoma reported neck lumps to be the presenting complaint in 75 per cent and headache in 25 per cent.[7]

Another study on 91 patients with nasopharyngeal carcinoma admitted to the Jordan University Hospital[1] reports on the modes of presentation of these patients. Seventy of these patients presented with single complaints: neck swelling in 45.5 per cent, ear symptoms (tinnitus, blockage, otalgia) in 21 per cent, headache in 14 per cent, nasal symptoms (obstruction, discharge, bleeding) in 9 per cent, pain (unspecified) in 7 per cent and ophthalmic symptoms in 3 per cent. The neck swelling was usually painless and was commonly overlooked by the patients. Twenty-one patients presented with multiple symptoms. Carotidynia was not reported in any of the patients.

A report on 24 patients at the Royal Infirmary, Glasgow showed similar results with respect to modes of presentation.[8] One of these patients, however, did complain of pain in the neck as an initial symptom. The exact features of this pain were not described.

There have also been two reported cases of nasopharyngeal carcinoma presenting as a retropharyngeal abscess.[3] This could be due to infection of retropharyngeal lymph nodes after their involvement with malignant cells. The patients in question presented with a high fever, a painful neck swelling and a swelling of the lateral wall of the oropharynx.

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- **This paper describes what appears to be the first reported case of nasopharyngeal carcinoma presenting with carotidynia**
- **This was caused by malignant infiltration of a lymph node overlying the bifurcation of the common carotid artery**
- **There are many recognised causes of carotidynia of which migraine is the most common, followed by viral or post-infective causes**

Carotidynia is defined as an episodic, usually unilateral neck pain often radiating upwards along the mandible to the ear or eye. Severity varies from mild to agonising. The cardinal physical sign is tenderness on palpation of the common carotid artery. Maximal tenderness is usually found at the bifurcation of the common carotid. It was first described by Fay in 1927. Migraine and viral or post-infective causes (such as following pharyngitis, infected aphthous ulcers and viral upper respiratory tract infection) are the most common and the most benign causes.[9] The symptoms usually respond to antimigrainous medication. A viral origin for carotidynia is also favoured by Roseman[10] in a report on young adults presenting with the typical symptomatology and by Chiossone and Quiroga[11] who also noticed a seasonal incidence.

It has also been described in patients with carotid artery disease such as atherosclerosis or aneurysms,[12] and has been described as a symptom of Takayasu's arteritis,[13] giant cell (temporal) arteritis, carotid artery dissection and total carotid artery occlusion.[9] We also found a case report of carotidynia caused by septic embolisation to the carotid bulb.[14]

In a report by Loshvin on 100 patients with carotidynia, no serious organic pathology was found. Another report by Hill and Hastings[9] on three patients with typical signs and symptoms of carotidynia showed similar results and the patients were treated symptomatically. We encountered several other papers on this topic and none showed any association between carotidynia and nasopharyngeal carcinoma.

Conclusion

We describe what appears to be the first reported case of nasopharyngeal carcinoma presenting with carotidynia. This was caused by malignant infiltration of a lymph node overlying the bifurcation of the common carotid artery, giving rise to the typical symptomatology of carotidynia.

There are many recognised causes of carotidynia of which migraine is the most common, followed by viral or post-infective causes. Less common causes are outlined above. In our extensive literature search we did not find any cases of carotidynia caused by nasopharyngeal carcinoma.

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