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Nasopharngeal carcinoma in the differential diagnosis of intracranial subtemporal masses

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Summary

Six cases of nasopharngeal carcinoma presenting primarily to the neurosurgical service of the University of Nigeria Teaching Hospital as intracranial subtemporal masses are discussed. This mode of initial presentation is very rare. The clinical features are described and the need to examine and biopsy the nasopharynx in cases of intracranial space occupying lesions in the subtemporal or posterior fossa regions is emphasised.

Résumé

Six cas de Nasopharngéal Carcinoma, se présentant principalement au service néurosurgical de L'Université de Nigéria Teaching Hôpital, comme des masses intracranielles subtemporales, sont discutés. Ce mode de la présentation initiale est très rare. Des traits clinicaux sont dé crits et le besoin d'examiner et biopsier le nasopharynx dans des cas de l'espace intracranial, occupant des lésions, dans le subtemporal ou dans des régions posterieur fossae est accentué.

Introduction

Carcinoma of the nasopharynx has been receiving increasing attention in medical literature from Africa[1-3]. Initially thought to be rare in Africans[4-7], the condition has been shown to be far from uncommon[2,8]. Involvement of cranial nerves as part of the total clinical picture of the condition is well recognised[9,10]. Indeed as Russell and Rubinstein[11] pointed out, nerve root lesions may present without any other manifestations of the tumour. Nasopharyngeal carcinomas often spread by extension into parapharyngeal spaces[12], and the various skull base foramina offer potential routes for neoplastic infiltration. These foramina particularly the large foramen lacerum form important lateral and posterior relations to the nasopharyngeal area. As nasopharngeal carcinomas are known to arise most commonly in the lateral wall of the pharynx[12,13], it is not surprising that these tumours frequently involve cranial structure.

The presentation of nasopharyngeal carcinoma as primarily intracranial mass lesions with or without neuropathies have only rarely been reported[14]. This paper discussed 6 cases presenting to the neurosurgical services of the University of Nigeria Teaching Hospital as intracranial subtemporal masses.

Materials and methods

A review of the case records and out-patient follow-up of patients with nasopharyngeal carcinoma who presented to the University of Nigeria Teaching Hospital between January 1988 and December 1989, was undertaken. In the period under review 29 patients with nasopharyngeal carcinoma were seen, 6 of whom had mass lesions in the subtemporal region. This paper is a report of this subgroup of 6 patients.

Results

There were 3 males and 3 females and their ages ranged from 4 to 56 years. (Table 1).

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Table 1: Summary of cases

Case No	Age (Yrs)	Sex	Side of Lesion	Main Symptoms	Mains Signs	Time Presen-tation	Histology	Treatment
1.	4	M	R	Headache HI (6/12) Unilateral proptosis Nasal obstruction/ discharge	Complete Ophthalmoplegia Papilloedema Mass Nasopharynx	2/52	Malignant Mixed Mesodermal Tumour	Chemotherapy
2.	7	F	R	Abducent palsy Ear ache Distrubed-consciousness	Unilateral hearing loss mass nasopharynx 6th n. Palsy	3/12	Soft tissue Sarcoma	Chemotherapy
3.	35	M	L	L. Hemiheadache L. facial palsy HI. (3 years) Nasal obstruction	L.2-11 cranial nerve palsy mass nasopharynx	6/12	Squamous cell ca.	Subtemporal Excision
4.	39	F	R	Headache Distrubed-consciousness Hoarseness Ptosis HI. (14/12)	Dysarthria Papilloedema Cervical lymph nodes enlargement mass nasopharynx	18/12	Undifferentiated Carcinoma	Chemotherapy
5.	46	F	R	Headache R. Deafness Disturbed-consciousness	R. Conducive Hearing loss Cervical lymph nodes enlargement mass nasopharynx	5/12	Undifferentiated Carcinoma	Subtemporal Excision Radiotherapy
6	53	M	L	Hearing difficulty Facial palsy Headache Epistaxis	5-8 Cranial nerve palsy Mass nasopharynx	3/12	Poorly differentiated carcinoma	Subtemporal Excision Radiotherapy

H.I. = Head Injury

Clinical Manifestations

The commonest symptoms were headache[5] disturbance of consciousness[3] hearing difficulties[3] and nasal obstruction[2]. The commonest signs were cranial nerve palsies, unilateral conducive hearing loss and presence of a nasopharyngeal mass. Two patients had cervical lymphadenopathy. Interestingly three of the six patients had a history of significant head injury a few months to years before onset (Table 1).

The latent period between appearance of initial symptom to presentation was between 2 weeks and one and a half years. 83.3% of the patients however presented between 3 months and 6 months. Plain radiograph of the skull showed erosion of the clinoid processes in 3 patients. All patients had cerebral angiography which in each case showed a subtemporal mass in the middle cranial fossa (Fig. 1).

Three patients were subjected to subtemporal excision on the assumption that the lesions were primarily intracranial but subsequent histology indicated an extracranial origin and nasopharyngeal examination identified this as the primary site. The other patients were treated with either radiotherapy or cytotoxic therapy.

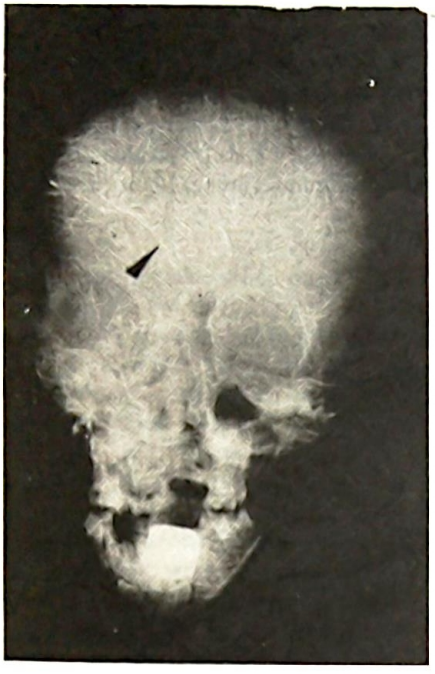

Fig. 1: Case 1. Right carotid angiography (A.P view) showing a large subtemporal mass lesion. The right middle cerebral artery (arrow) is elevated.

Discussion

It is well known that symptoms and signs of nasopharyngeal carcinoma are related to the size and rate of tumour growth, direction of spread, invasiveness and production of regional or distant metastasis. Although the triad of nasal obstruction, cervical lymphadenopathy and epistaxis remain the commonest presentations, a syndrome of multiple cranial nerve palsies must raise the possibility of nasopharyngeal cancer especially when these are associated with nasal, otologic or cervical glandular signs[9]. In the patient presenting with intracranial extensions, multiple cranial nerve palsies are associated with other features of raised intracranial pressure, particularly headache, and disturbance of consciousness.

Nasopharyngeal carcinoma is notorious for its varied modes of presentation and this often makes diagnosis elusive. As pointed out by Obiako[3], this time lage in arriving at a proper diagnosis remains a sore point about nasopharyngeal carcinoma in developing countries. Where facilities for investigations are limited as in most developing countries, much will be gained by good clinical assessment and a high index of suspicion. Headache unfortunately is not a reliable indicator of intracranial extension as it is often present with other forms of presentation[3]. However, when a disturbance of consciousness occurs with or without papilloedema, intracranial extension becomes highly probable. The occurrence of disturbed consciousness however indicates considerable intracranial extension with raised intracranial pressure. It should be the aim therefore to establish a diagnosis before this occurs and CT scan where available is advised in patients with early clinical signs of nasopharyngeal carcinoma. There is a need to recognise that the primary presentation of a nasopharyngeal carcinoma may be that of an insidious space occupying lesion and that in such cases especially when a subtemporal or posterior fossa mass is in question, the nasopharynx must be examined and biopsied.

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