# An Unusual Presentation of Nasopharyngeal Carcinoma

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### Introduction

Nasopharyngeal carcinomas (NPC) have a low incidence in western countries, but are endemic in South China where the incidence is 19.7 per 100 000, M: F ratio of 2:1 (1). It has a bimodal peak at presentation of 16–20 and 46–50 years (2). Due to the nasopharynx being a silent symptom area, they have an indolent course and the diagnosis is usually made at an advanced stage. Aetiological factors have been linked to genetic, environmental, dietary factors (nitrosoamines) and the Epstein Barr virus (3). We present a case of an unusual presentation of nasopharyngeal carcinoma with bilateral orbital invasion.

#### **Case Report**

An 82-year old Caucasian female was referred with a oneweek history of sinusitis, left ocular pain and triplopia. Previous ocular history included an uncomplicated left cataract surgery under local anaesthesia, five months earlier.

She was a frail elderly lady with a best corrected vision of 6/12 bilaterally. She had a left exotropia and hypotropia. There were limitations of movement in all directions of gaze in both eyes; however, it was significantly marked in the left eye (Figs. 1 and 2).

The Hertel exophthalmometer reading was 17 mm bilaterally and the left globe was tender to retropulsion. There were no signs of inflammation, no relative afferent pupillary defect (RAPD) and fundoscopy was normal. She was afebrile and dysthyroid eye disease was the initial diagnosis.

Thyroid function tests were normal and a review visit with the computerized tomography (CT) scan results was arranged. However, six days later she represented to the Casualty Department looking very ill, with notable weight loss and lethargy. Her vision remained unchanged, however, her left eye was proptosed with more limitation of extraocular movements and a mild left RAPD was present.

An urgent CT scan of the orbit and sinuses showed a nasopharyngeal mass extending from the sphenoid and ethmoidal sinuses expanding into the left orbit and to a lesser extent the right orbit (Fig. 3). It also eroded into the anterior cranial fossa via the orbital roof and the frontal sinus. Oedema of the frontal lobes adjacent to the mass was present.

Biopsy of the nasopharyngeal mass by the Ear, Nose and Throat (ENT) team confirmed an anaplastic large cell



Fig. 1: Hess chart of the left eye showing the marked restriction in ocular movement.



Fig. 2: Hess chart of the right eye.

nasopharygeal carcinoma. Chest X-ray and barium enema were normal but liver function test was deranged. The disease was assessed as Stage IV (due to intracranial extension). Radiotherapy was offered but she was not keen for any intervention. She died three weeks later.

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Fig. 3: Axial CT scan of the orbits and brain showing extensive involvement of the ethmoid and sphenoidal sinuses with contiguous spread into the left and right orbit with secondary proptosis of the left eye.

## DISCUSSION

Ninety-five per cent of patients with Nasopharyngeal Carcinoma (NPC) will present with cervical lymphadenopathy, nasal, aural or neurological symptoms (4). Ophthalmic presentation as the initial presenting feature of nasopharyngeal carcinoma is uncommon. Patients may present with proptosis, diplopia, optic neuritis (5, 6, 7), choroidal metastases (8, 9) and bacterial endogenous endophthalmitis (10). Orbital involvement from NPC is seen in 3.2% of cases (5). Bilateral orbital invasion occurs in 0.7% of patients with NPC (11).

Extension to the orbits may occur via contiguous spread from the cavernous sinus to the orbital apex, the paranasal sinuses and most commonly via the pterygopalatine fossa and inferior orbital fissure (5, 6, 11). The mean time to development of orbital metastasis from diagnosis is 12.7 months (range 2–60 months) and the mean survival time after

orbital spread was 21 months (12). Contiguous spread to both orbits and involvement of cranial nerves occurs in advanced cases and are poor prognostic signs. A five-year survival rate in patients with orbital involvement is 28% (4).

The presentation of this patient was unusual because of her age and the bilateral involvement of the orbits. It is imperative when assessing proptotic patients not to focus only on the eye since tumours of the head and neck can have contiguous spread into the orbit. One should, therefore, have a low threshold to consider radiological imaging in order to elucidate an orbital pathology that does not fit a suspected disease process.

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