Primary nasopharyngeal meningioma: a rare case report

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INTRODUCTION

Meningiomas are the most common primary tumour of the central nervous system in adults¹. The neoplasm arises from the arachnoid villi of the meninges and has a predilection for females between their fourth and sixth decades of life². With an incidence of 1.3-7.8 per 100,000, meningiomas are responsible for 13-26% of all intracranial neoplasms^{3, 4}.

Extracranial meningiomas are a rare entity accounting for <2% of meningiomas⁵, the majority of which are an extension of a primary intracranial tumour⁶. However, the most common anatomical location for extracranial meningiomas is within the head and neck⁴. Although infrequent, extracranial meningiomas have been reported in the orbit, the temporal bone, the facial bone, the nasal cavity, the middle ear cavity and the paranasal sinuses⁶. To date, very few cases of nasopharyngeal meningioma have been reported. Here we describe a rare presentation of nasopharyngeal meningioma in a young woman.

CASE REPORT

A 41 year old lady initially presented with intermittent but progressive right nasal obstruction with minimal symptoms suggestive of chronic rhinosinusitis. The main findings on examination were a right polypoid lesion with green discharge. She had slight proptosis of the right eye with excessive watering. The nasal condition was treated with a course of antibiotics, saline douche and nasal steroids, whilst a CT scan was arranged.

The CT scan demonstrated a striking abnormality – a large right nasal mass filling the right nasal cavity apart from its most anterior and posterior portions. The mass had deformed the right orbit and right maxillary antrum causing lateral displacement of their medial walls (Figure 1). A subsequent MRI scan demonstrated that the lesion was totally within the nasal cavity with no connection to dura (Figure 2).

An endoscopic nasopharyngeal biopsy was taken in theatre but led to significant bleeding requiring anterior and posterior packing with BIPP gauze and Foley catheter respectively.

The biopsy showed respiratory epithelium with subepithelial tissue containing well-defined nodular tumour characterised by whorl formation and elongated, predominantly storiform, and spindle cells. The lesion was well vascularised and there was sparse mitotic activity but no evidence of an inflammatory component and no necrosis. No immune reactivity was observed for CD34, AE1/AE3, desmin, CD10, SMA, S100 and melanoma markers on immunohistochemical assessment but there was a strong focal reaction for epithelial membrane antigen (EMA) and vimentin. The MIB1 index was estimated at 2-5%. The morphological appearance and immune profile of this lesion was considered most in keeping with meningioma (WHO grade 1).

Our patient underwent surgery under joint otolaryngological and neurosurgical care (Figure 3). Upon review, the nasal cavity had healed nicely with some crusting as expected for this type of operation and the patient was advised to continue nasal douching. Her sense of smell and taste had returned to normal and nasoendoscopy showed a healthy mucosa with no sign of recurrence. Repeated imaging demonstrated resection with no residual meningioma (Figure 3).

Fig 1. a-b. coronal (a) and axial (b) CT scans demonstrating a mass deforming the right orbit and right maxillary antrum causing lateral displacement of medial walls

Fig 2. a-b. MRI T1 coronal (a) and MRI T2 sagittal (b) weighted images demonstrating a deforming mass within the nasal cavity without connection to the dura

Fig 3. a-b. intraoperative photograph (a) and MRI T1 coronal image taken post-operatively demonstrate successful resection of the nasopharyngeal meningioma with no residual tumour (b)

DISCUSSION

Nasopharyngeal meningiomas are uncommon and may be difficult to diagnose, due to presenting symptoms mimicking other ENT disorders such as chronic rhinosinusitis.

Imaging and biopsy may be used to appropriately delineate meningiomas from other diseases of the nasopharynx. From our experience of this patient it is important not take lightly nasal biopsy of any unilateral polyp. It is important for otolaryngologists to consider rare diagnoses in patients with symptoms that may mimic common disorders.

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