

Giant frontal mucocele with intracranial and intraorbital extension

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Abstract

Case Report

We present an unusual case of a giant frontal sinus mucocele with intracranial and intraorbital extension. We also discuss the diagnosis and current management principles of this unusual lesion.

Keywords: Mucocele, Giant, Frontal sinus, proptosis.

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INTRODUCTION

Mucocele is a chronic, expanding, mucosa-lined lesion of the paranasal sinus characterized by mucous retention that can be infected becoming a mucopyocele. They originate from obstruction of the sinus ostium by congenital anomalies, infection, inflammation, allergy, trauma (including surgery) or a benign or malignant tumour. Mucoceles are most commonly found in the frontal and ethmoidal sinuses, are infrequent in the sphenoid sinus and occur rarely in the maxillary sinuses.

CASE REPORT

A 40-year-old man was referred to the Neurosurgery department with large swelling in the right frontal region of the head that started as a small swelling above the right eye 2 years prior. The mass slowly and gradually increased in size, causing progressive proptosis with loss of vision. Severe inferior displacement of the right eye was observed reaching the level of the nares, giving the appearance of a giant neoplasm. MRI and CT scan showed an expansive cystic mass in the right frontal sinus, with orbital and anterior cranial fossa extension, causing gross downward and outward displacement of the globe. After contrast administration, peripheral enhancement of the lesion was noted with no enhancement of the contents. The mucocele had determined erosion of the roof and superolateral wall of the orbit (Figure 1). A single stage maxillofacial and neurosurgical approach to treatment was taken consisting in the removal of the mucocele and reconstruction of the eroded bones with cranial bone grafts. After surgery, the patient was stable with no improvement in vision.

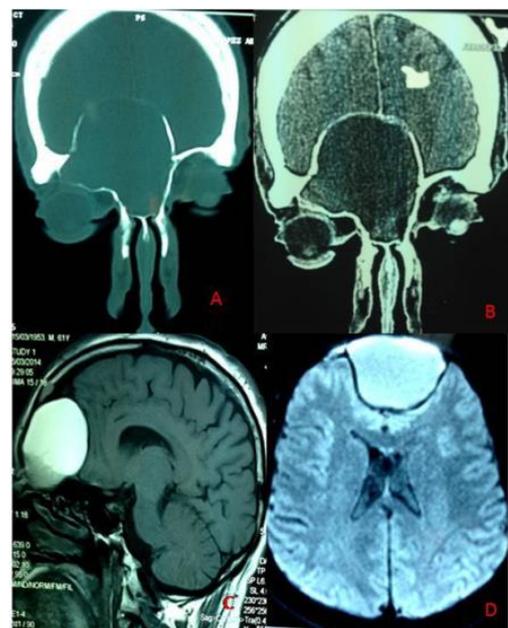


Fig-1: CT scan (A, B) and MRI (C, D) showing an expansive cystic mass in the right frontal sinus, with orbital and anterior cranial fossa extension, causing gross downward and outward displacement of the globe

DISCUSSION

A frontal mucocele consists of distension of the frontal sinus due to accumulation of mucoid secretion and epithelial cells with thinning of its bony wall due to obstruction of the sinus drainage [1,2,4]. Proptosis is the most common presenting sign of a frontal mucocele, as in our case. Other clinical features include a mass in the upper medial quadrant of the orbit, pain, vertical diplopia, limited upward gaze, bifrontal headache and increasing tearing [1,3].

Occasionally, an aggressive mucocele will cause bone destruction, especially of the orbital wall and may then simulate a malignant neoplasm. CT is essential for demonstrating the anatomic details of the mucocele and delineating its extension to the surrounding organs. The most critical function of CT is determining bony erosions or destruction. MRI is superior in demonstrating the relationship of the mucocele to neighboring soft tissue and in the differentiation from other soft-tissue neoplasms [1,3,4]. The most common treatment modality is extirpation of the mucocele, cranialization or exclusion of sinus and nasofrontal duct obliteration.

REFERENCE

1. Aggarwal SK, Bhavana K, Keshri A, Kumar R, Srivastava A. Frontal sinus mucocele with orbital complications: management by varied surgical approaches. *Asian journal of neurosurgery*. 2012 Jul;7(3):135.
2. Tan CS, Yong VK, Yip LW, Amrith S. An unusual presentation of a giant frontal sinus mucocele manifesting with a subcutaneous forehead mass. *ANNALS-ACADEMY OF MEDICINE SINGAPORE*. 2005 Jun 1;34(5):397.
3. Mohan S. Frontal sinus mucocele with intracranial and intraorbital extension: a case report. *Journal of maxillofacial and oral surgery*. 2012 Sep 1;11(3):337-9.
4. Srinivasa R, Dadlani R, Hegde AS. Incidental giant frontal sinus mucocele with intracranial extension. *Neurology India*. 2013 Jul 1;61(4):447.