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Clinical Record

Sphenochoanal polyp with heterotopic glial tissue

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Abstract

An isolated polyp arising from the sphenoid sinus is rare. Due to the presence of important structures adjacent to the sphenoid sinus, a proper pre-operative radiological and nasal endoscopic evaluation is mandatory, along with a neurological and ophthalmological assessment. We report the case of a 23-year-old man with a sphenochoanal polyp with heterotopic glial tissue in the stroma. A Medline search did not reveal any previously reported cases of glial tissue in the sphenoid sinus presenting as a sphenochoanal polyp.

Key words: Sphenoid Sinus; Glia; Nasal Polyps; Endoscopic Surgical Procedures

Introduction

Nasal polyps are relatively common and tend to occur more often in the middle meatus. In ethmoidal polyposis, extensive disease can also involve the superior meatus, the sphenoethmoidal recess and the olfactory area, in addition to the middle meatus. A polyp arising from the sphenoid sinus and extending into the nasopharynx through the choana should be investigated for underlying pathology, especially malignancy.

The relatively deep-seated location and important anatomical relations of sphenoid sinus lesions result in a late presentation with varying and sometimes vague symptoms. Proper clinical and radiological evaluation helps in detecting these lesions and planning treatment.

Case report

A 23-year-old man presented with a history of left-sided, persistent nasal blockage of two years' duration. He had had two episodes of epistaxis.

On examination by anterior rhinoscopy, a polypoidal inferior turbinate on the right and a deviated nasal septum to the left were noted. Post-nasal examination revealed a polyp in the nasopharynx, occluding the left choana and partially occluding the right choana. On diagnostic nasal endoscopy, the polyp was seen arising from the sphenoethmoidal recess (Figure 1). The cranial nerves were clinically normal.

Computed tomography (CT) was performed, and the paranasal sinus coronal sections showed homogenous opacification of the sphenoid sinus on the left, extending into the left posterior nasal cavity, choana and nasopharynx (Figure 2). The anterior and posterior ethmoids were normal. There was no evidence of erosion of the sella.

The patient underwent endoscopic removal of the polyp under general anaesthesia. The polyp was removed with the help of a microdebrider. Multiple biopsies were taken from various sites of the polyp (nasopharyngeal, nasal and sphenoidal).

Post-operatively, the patient received normal saline nasal douches and steroid nasal spray for three weeks.

Histopathological examination showed a polyp lined by hyperplastic respiratory epithelium with a subepithelial dense infiltrate of lymphocytes and plasma cells, some containing Russell bodies, and scattered mast cells (Figure 3a). The stroma showed oedema and prominent stromal cells displaying a giant cell response, with areas of focal fibrosis. Serial sections of the biopsy taken from the region of the sphenoid showed two subepithelial islands of glial tissue (Figure 3b). The histopathological diagnosis was sphenochoanal polyp with heterotopic glial tissue and evidence of chronic inflammation.

Discussion

Sphenoid sinus lesions, due to their anatomical location and relations, present with deep-seated headache, retro-orbital pain, visual change or cranial nerve palsies.[1–4] In some cases, the presentation may be nasal obstruction due to polyp formation occluding the choana, as in the above case. There may be symptoms and signs of eustachian tube dysfunction. The underlying lesion may be inflammatory (including chronic invasive fungal sinusitis), a benign neoplasm (e.g. inverted papilloma), an internal carotid artery aneurysm, a pituitary adenoma or an ectopic pituitary.[1,2] A primary or metastatic malignancy may also present in the sphenoid sinus.[1,2] Primary inflammatory disease of the sphenoid sinus accounts for less than 3 per cent of paranasal sinus inflammatory disease, while primary malignancy of the sphenoid sinus occurs in less than 0.05 per cent of sinus malignancies.[2]

The rarity of isolated sphenoid sinus lesions necessitates investigation prior to surgical excision. Examination of the cranial nerves, especially the IInd, IIIrd, IVth and Vth, should be performed as part of the clinical investigation and documented. Ophthalmological evaluation should include light reflex, visual acuity and fields, eye movements, corneal reflex, and fundoscopy.

Pre-operative radiological evaluation is mandatory to assess the site, extent and enhancement of the lesion. The presence or absence of erosion of the sella should be noted. An angiogram should be performed if a vascular

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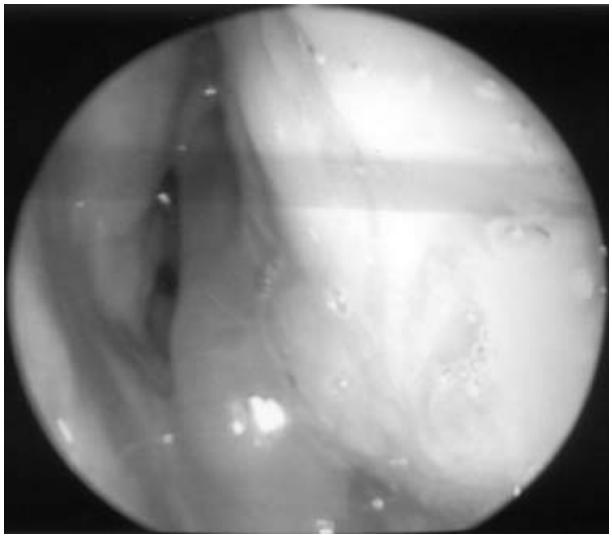

FIG. 1
Endoscopic view of the polyp in the sphenoethmoid recess.

lesion is suspected on CT scan. During diagnostic nasal endoscopy, the possible location of the polyp, condition of adjacent mucosa, and presence or absence of other polyps should be assessed. Rarely, the polyp may arise from the sphenoethmoidal recess or from the posterior end of the septum. A sphenochoanal polyp should not be mistaken for an antrochoanal polyp, in order to avoid unnecessary exploration of the maxillary sinus.[5]

Endoscopic excision biopsy of the sphenochoanal polyp can be performed in a single procedure, along with removal of the adjoining mucosa for histopathological examination. There are some authors who prefer a pre-operative biopsy.[1] However, the polyp may obscure the underlying pathology and the initial histopathology (based on pre-operative biopsy) may thus be misleading. Excision biopsy of the

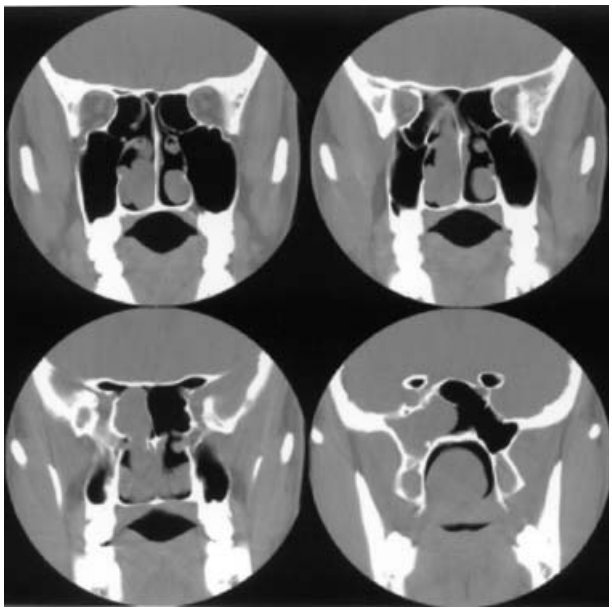

FIG. 2
Coronal computed tomography sections showing the lesion in the sphenoid sinus extending into the nasopharynx. The posterior ethmoids are free.

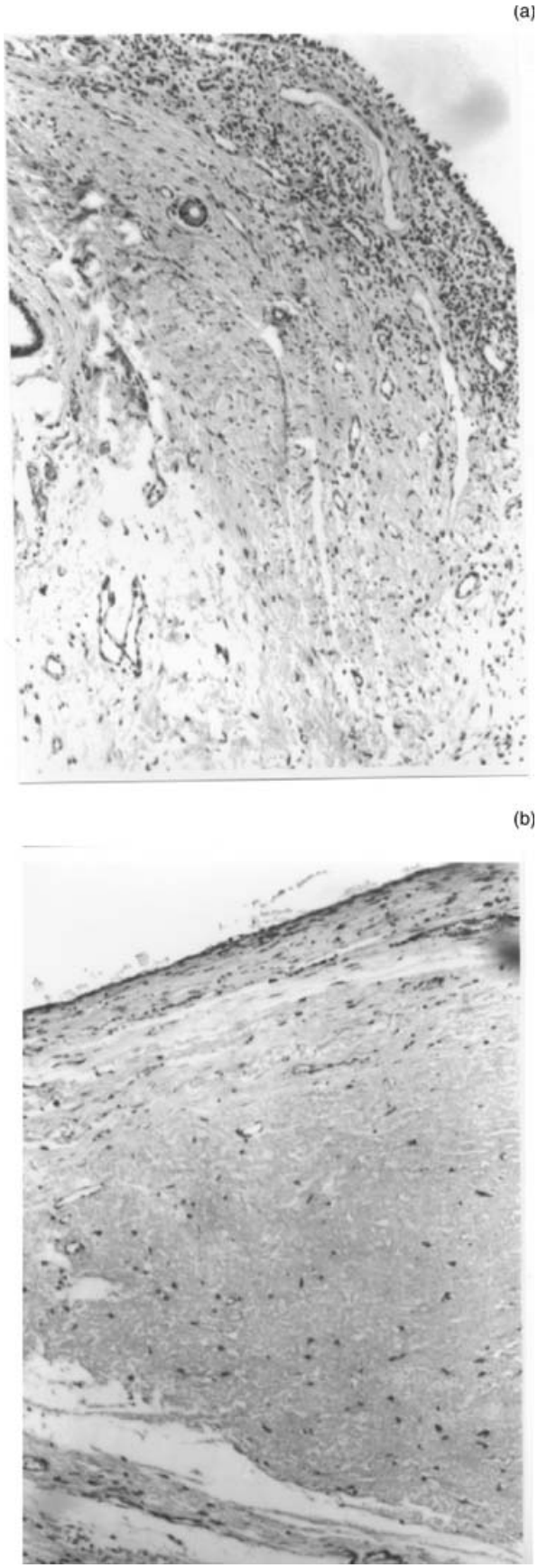

FIG. 3
(a) Sinus mucosa with subepithelial infiltrate of lymphocytes and plasma cells (H&E; ×400). (b) Subepithelial island of glial tissue (H&E; ×400).

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polyp, with analysis of serial sections of the tissue, is indicated in order to exclude an underlying tumour or heterotopic tissue such as glia.

- **Sphenochoanal polyps are rare but are often associated with underlying pathology. In this case, heterotopic glial tissue was found**
- **An endoscopic excision biopsy with serial sections at different parts of the polyp avoids missing the primary pathology**
- **Heterotopic glial tissue presenting as a sphenochoanal polyp has not been previously reported**

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