Frontal Bone Destruction as an Unusual Manifestation of Sinonasal Sarcoidosis: A Case Report

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Abstract

Sinonasal sarcoidosis is uncommon; frontal sinus and skull involvement are particularly rare. In this patient, destructive frontal-bone disease mimicked malignancy, while biopsy confirmed sarcoidosis.

Case Presentation

- 52-year-old woman with pulmonary sarcoidosis
- One-year nasal obstruction and intermittent epistaxis
- New painless left frontal swelling
- Endoscopy: crusting and narrowed nasal passages
- CT prompted urgent cancer-pathway referral

Clinical Timeline

Month 0 — Pulmonary sarcoidosis

Month 18 — New frontal swelling

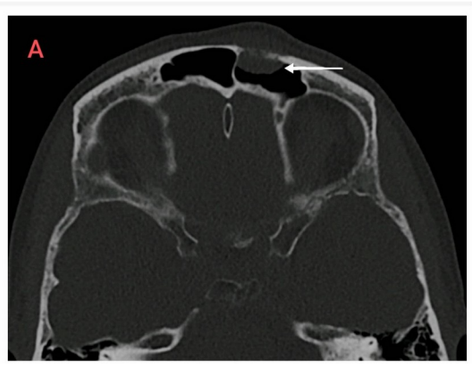
Month 19 — CT: frontal lesion

Month 20 — ENT + biopsy

Month 21 — Sarcoidosis confirmed

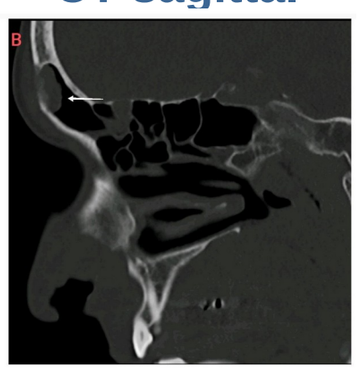
Imaging & Histopathology

CT axial



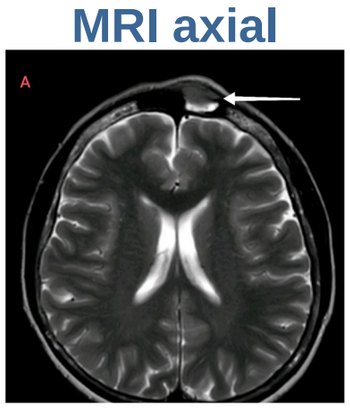
Frontal sinus wall erosion and scalp extension.

CT sagittal



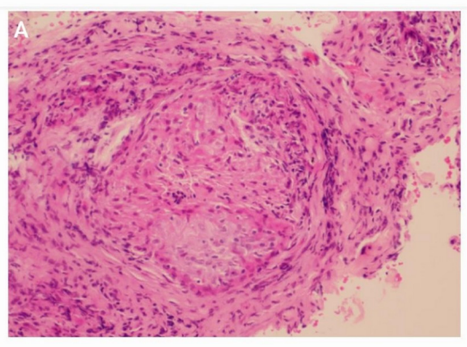
Frontal soft-tissue extension.

MRI axial



Left frontal bone lesion; no intracranial extension.

Histology



Non-necrotising granulomas; no malignancy.

Investigations

CT: anterior left frontal-sinus soft tissue with erosion of the anterior wall and extension into the frontal scalp.

MRI: multiple cranial-vault lytic lesions; the largest involved the left frontal bone with frontal-sinus and scalp extension. Inner table intact; no intracranial extension. Additional hard-palate lesion and cervical lymphadenopathy.

Diagnosis

Frontal-lesion biopsy showed well-circumscribed non-necrotising granulomas. No microorganisms or malignancy were identified. Findings were consistent with sarcoidosis.

Discussion

Sinonasal sarcoidosis is rare (<1% in published reports), while skull involvement is particularly uncommon. Destructive frontal-bone disease with soft-tissue extension closely mimicked malignancy. Multisite head-and-neck involvement developed despite previously quiescent systemic disease, making histopathological confirmation essential.

Conclusions / Learning Points

- Consider sarcoidosis in atypical destructive sinonasal or skull lesions.
- Aggressive imaging may closely mimic malignancy.
- Biopsy is essential to confirm diagnosis and exclude malignancy.

Management & Follow-up

The patient was referred to the respiratory team for systemic sarcoidosis management, with multidisciplinary follow-up planned.

Selected References

1. Kirsten AM et al. BMC Pulm Med. 2013;13.
2. McCaffrey TV, McDonald TJ. Laryngoscope. 1983;93:1281-1284.

Key message: Destructive frontal sarcoidosis can closely mimic malignancy - tissue diagnosis is crucial.

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Patient consent obtained. Clinical data and images anonymised.
Affiliation / institutional logo can be added here before submission.