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# Nasofrontal dermoid sinus

Jorge Rodrigues,<sup>1,2</sup> Sérgio Caselhos,<sup>1</sup> Alexandre Mexedo,<sup>1</sup> Rui Fonseca<sup>1</sup>

<sup>1</sup>Department of ENT, Hospital da Senhora da Oliveira - Guimarães EPE, Guimarães, Portugal

<sup>2</sup>Department of Anatomy, Faculty of Medicine, University of Porto, Porto, Portugal

## Correspondence to

Dr Jorge Rodrigues,  
jorge.rods@hotmail.com

Accepted 2 September 2017

## DESCRIPTION

A 19-year-old woman presented with recurrent episodes of headache and intermittent caseous discharge from a midline pit near the rhinion, since childhood. There was no fever, nausea, vomiting or seizure. Physical examination revealed a widened nasal bridge and a midline aperture with a protruding hair. Patient's neurological examination was normal. A contrast-enhanced CT scan of the head showed a small hypodense lesion at the anterior basifrontal region. T1-weighted MRI images identified a hyperintense intracranial lesion, which showed suppression with fat suppression sequences. T2-weighted images also revealed a high signal lesion modelling the cerebral parenchyma ([figure 1](#)), with a small tract going up to the nasal bridge ([figure 2](#)). The patient was diagnosed with a nasofrontal dermoid cyst with the extracranial nasal sinus tract and surgical excision was proposed. The histopathological analysis confirmed the previous diagnosis.

Dermoid cysts are rare developmental anomalies that often arise in lines of embryological fusion. The incidence is estimated at 1:20 000–1:40 000 births.<sup>1</sup> A dermoid cyst



**Figure 2** Sagittal T2-weighted MRI image presenting a hyperintense nasofrontal dermoid cyst with the extracranial nasal sinus tract.

## Learning points

- ▶ The knowledge of head and neck anatomy and embryology and a high index of suspicion are essential for the correct diagnosis of these anomalies.
- ▶ A midline pit with a protruding hair is only seen in a minority of patients but it is pathognomic for a nasal dermoid sinus.
- ▶ The complete excision should be the treatment of choice to avoid recurrence.



**Figure 1** Coronal T2-weighted MRI image showing a hyperintense nasofrontal dermoid cyst.

either arises from a cluster of epithelium trapped during the embryological development or failure of obliteration of the ectodermal extension.<sup>2</sup> They may contain adnexal structures such as skin, hair follicles and sebaceous glands. These lesions may have intracranial extension. Contrast-enhanced MRI is helpful to differentiate a dermoid, which does not enhance, from enhancing lesions such as an epidermoid or a teratoma. An imaging study is essential to know the full extension of lesion. Complete excision is necessary to avoid future recurrences.<sup>3</sup>

**Contributors** All authors: know and agree with the case described. JR and SC: collected the information and wrote the article. AM and RF: reviewed the work.

**Competing interests** None declared.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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**To cite:** Rodrigues J, Caselhos S, Mexedo A, et al. *BMJ Case Rep* Published Online First: [please include Day Month Year]. doi:10.1136/bcr-2017-220663

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