

# Dermoid cyst of nasal septum in an adult patient

## A case report

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### Abstract

**Rationale:** Nasal dermoid cysts are rare congenital lesions and may present as a midline nasal swelling. Nasal dermoid cysts usually present at birth and are commonly diagnosed by 3 years of age. An incidentally detected nasal dermoid cyst in an adult patient is extremely rare.

**Patient concern:** We report an unusual case of an adult patient with an incidentally diagnosed dermoid cyst of the nasal septum, which presented as a longstanding discharging pit in the nasal columella since childhood.

**Diagnosis:** A preoperative diagnosis of dermoid cyst of the nasal septum was made.

**Intervention:** We performed the external rhinoplasty incision, including a small elliptical incision for removal of the columella pit.

**Outcome:** There has been no evidence of recurrence during the 2-year follow-up.

**Lessons:** An incidentally detected nasal dermoid cyst in an adult patient is extremely rare. The most important point for the preoperative diagnosis of nasal dermoid cysts is to identify the presence or absence of intracranial extension. The treatment of choice for nasal dermoid cysts is complete surgical excision with clear margins.

**Abbreviations:** CT = computed tomography, MRI = magnetic resonance imaging, PET-CT = positron emission tomography-CT.

**Keywords:** computed tomography, dermoid cyst, nasal septum, rhinoplasty, surgical procedure

## 1. Introduction

Nasal dermoid cysts are rare congenital lesions and may present as a midline nasal swelling.<sup>[1–3]</sup> Nasal dermoid cysts usually present at birth and are commonly diagnosed by 3 years of age.<sup>[2–4]</sup> Therefore, they are rarely found in adults, as in our patient.<sup>[3]</sup> Herein, we report an unusual case of an adult patient with an incidentally diagnosed dermoid cyst of the nasal septum, which presented as a longstanding discharging pit in the nasal columella since childhood.

## 2. Case report

A 21-year-old woman visited our hospital with an incidentally detected nasal septal mass on magnetic resonance imaging (MRI)

after a car accident. The patient did not have any nasal symptoms, such as nasal obstruction, rhinorrhea, nasal bleeding, and nasal swelling. She presented with an intermittent serous, turbid discharge from a pit in the nasal columella since early childhood (Fig. 1). Physical examination of the nasal cavity, head, and neck was unremarkable, except for mild swelling of the nasal septum. Computed tomography (CT) scan demonstrated an approximately 2.4cm lobulated cystic mass within the nasal septum, extending into the frontal sinus, but without intracranial involvement (Fig. 2).

Based on these observations, a preoperative diagnosis of dermoid cyst of the nasal septum was made. We performed the external rhinoplasty incision, including a small elliptical incision for removal of the columella pit. After dissection following the tract, the mass from the nasal columella extending into the frontal sinus ostium was confirmed and completely removed. The postoperative course was uneventful. The histopathological analysis of the nasal septal mass revealed a dermoid cyst. There has been no evidence of recurrence during the 2-year follow-up. This study was approved by the institutional review board of the Chonnam National University Hwasun Hospital. Informed written consent was obtained from the patient for publication of this case report and accompanying images.

## 3. Discussion

Most of nasal dermoid cysts are found before 3 years of age and rarely found in adults.<sup>[2–4]</sup> The pathogenesis of nasal dermoid cysts nasal dermoid cysts.<sup>[4]</sup> Nasal dermoid cysts represent 11% to 12% of head and neck dermoids, and 1% of all body dermoids.<sup>[2,4]</sup> However, nasal dermoid cysts are distinct from other dermoids because of their ability to exist as a cyst, sinus, or fistula, which can extend to deeper structures and they can also extend into the intracranial portion.<sup>[1,3,4]</sup>

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**Figure 1.** The opening of nasal dermoid cyst was observed in the nasal columella.



**Figure 2.** Sagittal scan of computed tomography demonstrated an approximately 2.4 cm lobulated cystic mass within the nasal septum, extending into the frontal sinus.

Nasal dermal cysts usually present at a young age as a mass from the glabella to the columella.<sup>[1–5]</sup> Nasal dermal cysts can open onto the dorsal nasal skin as an external dimple or a small pit containing a tuft of hair.<sup>[3,4]</sup> They are confined to the superficial nasal region in up to 50% of cases, but intracranial extension occurs in approximately 10% to 45% of these

lesions.<sup>[4,5]</sup> In this case, the lesion developed in the nasal septum, the tract was from the columella to the frontal sinus, and there was no intracranial extension.

The diagnosis of nasal dermoid cysts is usually made by typical clinical symptoms and radiologic findings.<sup>[1–5]</sup> The most important point for the preoperative diagnosis of nasal dermoid cysts is to identify the presence or absence of intracranial extension.<sup>[1–5]</sup> CT and MRI are helpful for assessing the location and extension of the lesion and for determining the most appropriate surgical approach and procedure.<sup>[1–5]</sup> In our case, we performed both CT and MRI preoperatively. The differential diagnosis of nasal dermoid cysts includes encephalocele or glioma.<sup>[1,4]</sup>

The treatment of choice for nasal dermoid cysts is complete surgical excision with clear margins.<sup>[1–5]</sup> If nasal dermoid cysts are left untreated, there are susceptible to recurrent infections and may progress to cause osteomyelitis, meningitis, or intracranial abscess.<sup>[3–5]</sup> The method of surgical approach depends on the extent and location of the lesion.<sup>[1–5]</sup> Adequate exposure must be achieved for complete surgical excision in order to reduce the risk of recurrence. After incomplete excision, the recurrent rate has been reported in 50% to 100% of cases.<sup>[4,5]</sup> In this case, we successfully performed the external rhinoplasty approach. This approach offers a good surgical exposure and an excellent cosmetic effect.<sup>[3]</sup>

Dermoid cyst of the nasal septum is a rare congenital lesion. In addition, an incidentally detected nasal dermoid cyst in an adult patient is extremely rare. We present an unusual case of an adult patient with an incidentally diagnosed dermoid cyst of the nasal septum, which was successfully removed via the external rhinoplasty approach.

### Author contributions

**Conceptualization:** Dong Hoon Lee, Sang Chul Lim.

**Data curation:** Dong Hoon Lee, Tae Mi Yoon, Joon Kyoo Lee, Sang Chul Lim.

**Investigation:** Sang Chul Lim.

**Writing – original draft:** Dong Hoon Lee.

**Writing – review & editing:** Dong Hoon Lee, Tae Mi Yoon, Joon Kyoo Lee, Sang Chul Lim.

### References

- [1] Frodel JL, Larrabee WF, Raisia J. The nasal dermoid. *Otolaryngol Head Neck Surg* 1989;101:392–6.
- [2] Loke DK, Woolford TJ. Open septorhinoplasty approach for the excision of a dermoid cyst and sinus with primary dorsal reconstruction. *J Laryngol Otol* 2001;115:657–9.
- [3] Locke R, Kubba H. A case of a nasal dermoid presenting as a median upper lip sinus. *Int J Oral Maxiofacial Surg* 2011;40:985–7.
- [4] Choi YD, Park ES, Kang MS. A nasal dermal sinus cyst involving the nasal septum. *J Craniofac Surg* 2012;23:e636–8.
- [5] Ortlip T, Ambro BT, Pereira KD. Midline approach to pediatric nasofrontal dermoid cysts. *JAMA Otolaryngol Head Neck Surg* 2015;141:174–7.