

## Case Report

# A TYPICAL PRESENTATION OF NASAL DERMOID SINUS CYST: A CASE REPORT

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## ABSTRACT

Nasal dermoid sinus cysts are common congenital midline nasal lesions, accounting for 4-12% of all head and neck dermoids. They are congenital lesions lined by stratified squamous epithelium with normal dermal appendages, including hairs and sebaceous glands. Selection of appropriate surgical technique for its excision is essential for successful treatment and to avoid its recurrences in future. Here we describe the surgical management of a nasal dermoid sinus cyst which had an atypical presentation through rhinoplasty approach.

**Keywords:** Nasal dermoid sinus cyst, Rhinoplasty, Congenital

## INTRODUCTION

Nasal dermoids cysts are common congenital midline nasal lesions accounting for 4-12% of head and neck dermoids. They may appear as cystic lesions or sinus opening on the midline nasal dorsum between glabella and the columella at birth, childhood or adolescent age group. They may also present as generalized nasal swelling with pus discharge from more than one sinus openings as in our case. Complete excision regardless of extension, is essential to prevent recurrence, nasal deformity, infection and intracranial complications. Many surgical approaches have been advocated for treatment of complete excision namely excision and primary closure, midline vertical incision, inverted U incision and decortication rhinoplasty approach (Hughes *et al.*, 1980; Denoyelle *et al.*, 1987).

Decortication rhinoplasty approach is the preferred approach. Since it provides advantages with respect to wide exposure, more control over osteotomies if required and better visualization (Pollack, 1983; Morrissey and Bailey, 1991).

## CASE

An 18 yr old boy presented with recurrent swelling of the nose, redness, pain over the dorsum of the nose on and off since 10 years and got aggravated for the last 1 month. The patient had treatment for nasal vestibulitis and was not subsiding so was referred to our hospital.

Physical examination revealed a swollen nose especially the lower one half with redness and noticed a discharge through two openings on the dorsum of nose on pressing. Then he gave an history of discharging pus from two openings on the dorsal surface of lower 1/3 rd of the nose, since 10 yrs, intermittent discharge was present since early childhood spontaneously and also on pressing over the nose.

The endoscopic examination of the nasal cavity revealed a granular lesion measuring 4 by 4 mm in the upper part of nasal cavity at the junction of septum and lateral nasal wall of nose at the level of anterior end of middle turbinate. Syringing of the sinus openings with normal saline showed regurgitation of fluid from other opening of the sinus and also spillage of fluid into the nasal cavity through the granular mass as described above. This confirmed that there is an internal opening of the sinus which was in the left nasal cavity anterior to the anterior end of left middle turbinate at junction of septum and upper lateral cartilage (figure 1A).

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The other head and neck findings were within normal limits.

#### **Radiological Examination**

CT –Sinogram showed a fistulous tract seen in the dorsum of nose in midline with two external openings. Fistulous tract was extending cranially till the root of the nose and opening into the left nasal cavity. Contrast seen spilled over into left nasal cavity; length of the fistulous tract and was about 3.5cm (figure 1B).

Ultrasonography: High resolution musculoskeletal ultrasonography for external nose revealed oval hypo echoic lesion ms 7\*6.5\*5mm in the subcutaneous plane on dorsum of nose 1cm from tip of nose, nasal bones were normal.



**Figure 1:** A: showing dimpling on the dorsum of nose, B: sinogram showing the fistulous tract, C: showing the full sinus tract, D: showing the histopathology of the dermoid cyst.

#### **Operative Procedure**

The patient underwent complete excision by decortication rhinoplasty approach, following the transcolumellar and bilateral marginal incisions, in both the upper and lateral cartilage were delineated. We noted a well defined thin cystic lesion with two sinus openings connected to the cyst which was containing hairs and some cheesy material. The cyst was overlying the medial portion of the upper lateral cartilage and cystic lesion continued superiorly as a thin tract underneath the left nasal bone and curving superolateral and inferiorly in an inverted U manner and opening into the left nasal cavity. The internal opening of the sinus in the nasal cavity was surrounded by granulation tissue. The entire sinus tract with cyst was completely excised and granulation tissue which was present in the nasal cavity was curetted (figure 1C).

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After removal of the lesion, there was no significant nasal defect, hence the elevated skin was redraped and incisions were closed with 6-0 prolene sutures and nasal splint was placed over the nasal dorsum.

### **Histopathology**

The entire specimen was subjected to histopathology which revealed squamous epithelium with keratin and granular layer, lumen containing hairs shafts and keratin flakes. Abundant sebaceous lobules with dilated ducts were seen opening in the wall. Biopsy from the granulation tissue surrounding the internal opening revealed granulation tissue containing foreign body giant cells around cholesterol clefts and hair shaft which was suggestive of dermoids (figure 1D).

### **DISCUSSION**

A clear understanding of several features of nasal dermoid sinus cysts is critical to the diagnosis and management of nasal dermoid, sinus cysts with or without intracranial extension. Many surgical procedures have been describe for treating nasal dermoids but decortications rhinoplasty(open rhinoplasty) approach is appropriate for cases like we encountered as this approach gives wider working angle, avoiding recurrence and easy nasal bone osteotomies and augmentation of nose if required (Rahbar *et al.*, 2003).

Through clinical, endoscopic examination of nasal cavities and radiological examinations with contrast are essential for the proper diagnosis and to know the extent of sinus tracts and internal openings. In our case nasal endoscopy showed an area of granulation tissue in the left nasal cavity which gave a clue to the probable internal opening of the sinus, which was confirmed by syringing of the sinus and further confirmed by the radiological examinations.

### **Statement of Author Contributions**

Indu Varsha Gopi: Contributed to the design of study, collected samples, did data analysis and drafted the manuscript; Corresponding author for the manuscript. K C Prasad: Contributed to the design of study, data analysis, helped framing and editing of the manuscript.

### **Conflict of Interest**

The authors declare no conflict of interest or commercial affiliation related to this study.

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