

A case of nasal dermoid presenting as a median philtrum sinus

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Conflicts of Interest: Nil

Abstract

Background: Isolated congenital upper lip sinuses are rare events and with nasal dermoids being the most common type. They usually present at birth as a pit at any point on the midline of the nose with history of recurrent infection and discharge. Nasal dermoids with an opening in the philtrum are less common. They are sometimes associated with cleft lip or palate. We intend to report a case of isolated midline upper lip sinus (MULS), associated with a midline dermoid cyst.

Case Presentation: A 12year girl presented with the history of whitish discharge from just below the nose and above the upper lip. There was an opening of 1mm diameter at midline on philtrum, 4mm inferior to

columella of nose and 10mm superior to vermilion border. CECT sinogram showed linear sinus tract in midline just superior to upper lip, possibly sinus arising from dermoid cyst with no definite deeper communications. We had decided to proceed for the excision of sinus tract with dermoid cyst under general anaesthesia.

Discussion: Perioral sinuses are very rare condition, with prevalence of 0.001% for lower lip sinus. Midline upper lip sinus is even more rare condition that is less frequently reported in the literature.

Conclusion: Excision of the sinus tract is associated with best results regarding recurrence and symptoms.

Keywords: Philtrum sinus, Dermoid, Excision

Introduction

Isolated upper lip sinuses are rare genetic events. Nasal dermoids being the most common type. They usually present at birth as a pit at any point on the midline of the nose with history of recurrent infection and discharge. If nasal dermoids extending to the anterior cranial fossa gets infected then it may result in serious sequelae, such as meningitis, intracranial abscesses or osteomyelitis of frontal bone. Nasal dermoids with an opening in the philtrum are less common. We intend to report a case of isolated midline upper lip sinus (MULS), associated with a midline dermoid cyst. Various theories have been proposed to explain the origin of such sinuses: formed by failure of ectodermal invagination of the nasal placodes in the frontonasal process (invagination theory) [1]; breakdown of the mesenchyme-poor, fused maxillary processes (merging theory) [2]; failure of complete fusion of the maxillary processes growing together over the frontonasal process (fusion theory) [3].

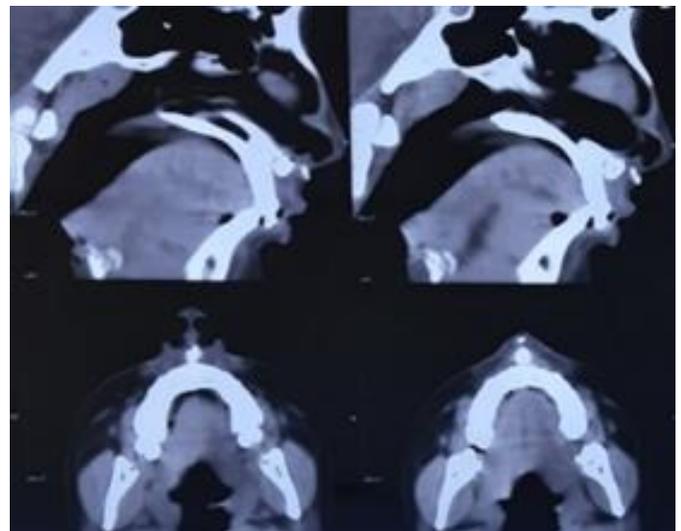
Case presentation

A 12-year girl presented to our ENT department with the history of whitish discharge from just below the nose and above the upper lip. The discharge aggravated on exposure to cold weather. There was no history of fever, trauma, similar complaints in family and also no other congenital abnormalities were found at birth. On examination, her vitals were normal and she had normal growth pattern. On local examination, there was an opening of 1mm diameter at midline on philtrum, 4mm inferior to columella of nose and 10mm superior to white roll of upper lip (vermillion border) (figure 1).



Figure 1: Midline philtrum sinus

No similar openings were found on mucosal surface of upper lip, indicating a blind ending sinus which was confirmed by inserting a fistula probe. CECT Sinogram showed linear sinus tract in midline just superior to upper lip at the level of philtrum of nose leading to a small hypodense area anterior to anterior nasal spine of maxilla- possibility of sinus arising from dermoid cyst with no definite deeper communications. (Figure 2,3)



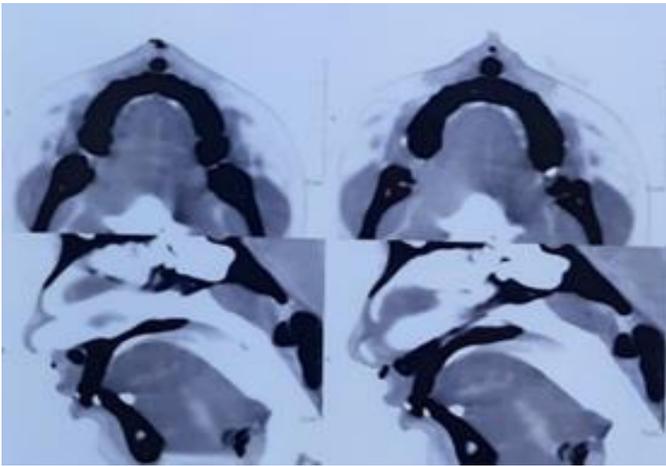


Figure 2: CT sinogram (axial & sagittal sections).



Figure 3: CT sinogram with 3D reconstruction

We had decided to proceed for the excision of sinus tract with dermoid cyst under general anaesthesia. During the time period of pre operative work up she was started with oral antibiotics and anti-inflammatory medications to reduce the infection and inflammation.

Under general anaesthesia, a small vertical elliptical skin incision was given around the openings. (Figure 4). Intra-operatively methylene blue dye was injected into sinus opening to follow the tract. Sinus tract was dissected and explored extra-orally. (Figure 5) Tract along with dermoid cyst was excised. Subcuticular suture was done to avoid the scar and the pressure dressing was done to avoid the hematoma formation.

Specimen (figure 6) was sent for histopathological examination.



Figure 4: Elliptical incision around the opening



Figure 5: Dissected sinus tract

Outcome and follow-up

His to pathol ogical examination of sample showed cyst lined by keratinizing squamous epithelium with prominent granular layer. Wall of cyst contained hair follicle with sebaceous glands. Patient was discharged on post-op 3rd day on oral antibiotics and local application of antibiotic ointment. She was followed up on weekly basis for first 3 weeks then on monthly basis for 3 months then every 3 months for 12 months. Wound was healthy and no complications were reported.



Figure 6: Specimen

Discussion

Perioral sinuses are very rare condition, with prevalence of 0.001% for lower lip sinus [9]. Sinus of Midline upper lip is even more rare condition that is less frequently reported in the literature. The first case was reported in 1879 by Lanneloque et al [10]. According to Nagasao majority (18/32) of the cases were females. But due to less number of cases, this conclusion is not much accurate and majority of cases have been reported from South Asian countries. This can also indicate race predilection for Asian race group [11]. Development of nasal dermoids is related to the Dural process in the pre-nasal space. During initial time of development, the dura and skin are in direct contact. If there is failure of the skin to separate from the dura, a dermoid cyst is formed. If this communicates with the skin via a punctum a dermoid sinus is created.[12] The variable location of the midline nasal dermoid sinus cyst may also represent the point where ectodermal inclusion during embryological development occurred. This is along an anatomical line up the midface to the anterior cranial fossa.[13]

According to Aoki et al, they developed a classification system of upper lip sinuses, three categories were introduced depending on position of sinus and associated anomalies. (a) Type I: It is midline sinus without accompanying anomalies; (b) Type II: It is midline sinus with accompanying anomalies; and (c) Type III: It is lateral sinus with or without accompanying anomalies [14]. According to most of the authors excision of the sinus tract is associated with best results with less recurrence and relief from symptoms.

Conclusion

Surgical excision is the preferred treatment of upper lip sinus especially in the patients who have recurrent infection. Excision along with complete delineation of tract is required because incomplete excision can cause recurrence and can also leads to scarring and cosmetic deformity.

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