Nasal dermoid sinus cyst in a young female

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A 13-year-old girl was brought by her parents to our outpatient department for seeking opinion for unusual appearance of her nose [Figure 1]. The parents reported that the patient had tufts of hair emerging from an oval shaped depression present on the bridge of the nose. She also complained of occasional discharge of pus and serous material. She did not complain of any watery discharge or headache. On enquiry, the patient did not give history of increase in size of lesion or discharge on coughing or crying. On examination, an oval depression measuring in size of 1 × 3 cm was present on the upper one third of nasal bridge and tufts of hair were seen emerging from the depression [Figure 2]. Rest of the mucocutaneous examination was within normal limits. No other bony abnormality was evident on palpating the local area. Radiological examination of the paranasal sinuses did not show any abnormality. Her serum chemistry, complete hemogram, and urinalysis were within normal reference range.

DISCUSSION

The most accepted theory for pathogenesis of nasal dermoid sinus cyst (NDSC) is that of *presnasal theory* by Pratt[1] and the *cranial theory* by Bradley.[2] Commonly, nasal dermoid sinus cyst (NDSC) presents as a firm, non-compressible, non-pulsatile masses or a 'furuncle like' lesion on the midline of the nose. They are usually present at birth and may appear anywhere along the nasal midline from the glabella to the nasal tip. A tuft of hairs emerging from a midline nasal swelling is nasal dermoid sinus cyst until proved otherwise.[3] Patients often complain of discharge of keratinous material on manipulating the lesion. The chief cause of concern in a case of nasal dermoid sinus cyst is the possible extension into the intracranial space via communicating tracts extending between the dermoid cyst to the skull base or the anterior cranial fossa through abnormal foramen caecum.[4] The size and depth of cyst and sinus can vary between patients and a thorough physical examination should be conducted to assess the depth and a possible intracranial communicating tract. A blind probing should not be attempted in a case of NDSC due to possibility of intracranial communicating tract from the dermoid sinus cyst, which can lead to meningitis.

The differential diagnosis for midline nasal swelling includes nasal gliomas, nasal encephalocele, congenital heamangiomas, and epidermoid cyst.[5,6] Nasal encephalocele presents a soft compressible bluish swelling which changes in size on crying or straining (Valsalva maneuver) and shows transillumination due to its cerebrospinal fluid content. Our patient

Figure 1: A single midline hair bearing lesion on bridge of nose

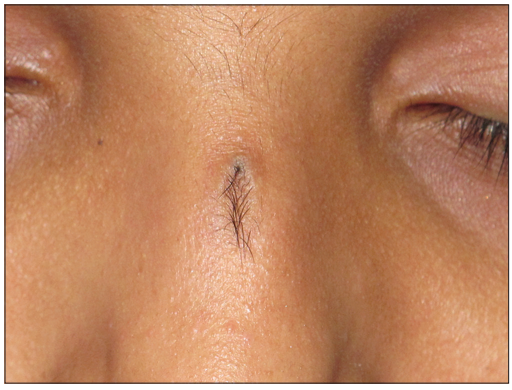

Figure 2: A 2 × 1 cm oval depression on upper third of nose with many hairs arising from the lesion

presented with the classical picture of nasal dermoid sinus cyst with history of intermittent discharge of pus and on examination she had pathognomonic tufts of hair arising from the opening of the sinus. Computed tomography scan is the most accurate method to detect bony defects of the skull, however; false-positive studies are common, particularly in young children who are in the process of bone maturation.[7] Magnetic resonance imaging (MRI) is superior in demonstrating intracranial masses and other soft tissue changes.[8] Other developmental anomalies that have been reported in association with NDSC include atresia of pinna, cleft lip and palate, hydrocephalus, hypertelorism.[9] The dreaded complication of nasal dermoid sinus cyst with sinus tracts is secondary infection of the cyst and if left untreated can lead to facial or periorbital cellulitis, nasal abscess, meningitis, frontal lobe abscess and osteomyelitis.[10]

The treatment of choice for NDSC is surgical excision with neurosurgical back up to remove any intracranial sinus tracts. The recommended age for surgical excision is around 2 years of life. Incomplete surgical excision can lead to recurrence of the condition.[11]

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