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Case Report

Nasal encephalocele presenting with snoring in a child – A case report

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ABSTRACT

Snoring is noisy breathing during sleep and is a symptom of sleep disordered breathing. Persistent snoring is an alarming symptom requiring extensive examination of the oral and respiratory tract. There are various causes of nasal obstruction in children. External nasal examination with nasal speculum and nasal endoscopy helps to identify the origin and nature of nasal mass. We report a case of nasal encephalocele in a 5-year-old male child who presented with snoring.

Keywords: Sleep apnoea, Snoring, Child, Encephalocele

INTRODUCTION

Snoring is a symptom of nocturnal hypoxia which occurs due to nasal obstruction, macroglossia, obstructive sleep apnoea, short neck, or obesity.[1] The causes for nasal obstruction in children are hypertrophied turbinates, impacted foreign body, adenotonsillar hypertrophy, cleftpalate, nasal polyps and nasal masses such as angiofibroma, carcinoma and sarcoma.[2]

In children, rare presence of brain tissue in the nasal cavity as a glial hamartoma, teratoma or encephalocele poses danger while routine nasal cavity examination with a speculum. The incidence of encephalocele is 0.95 in 1000 live births. Vigourous handling of nasal encephalocele (NE) with nasal speculum leads to cerebrospinal fluid (CSF) leak, meningitis, or meningoencephalitis. We report here a case of NE in a 5-year-old male child who presented with snoring and unilateral nasal mass in view of diagnostic challenge and rarity.

CASE REPORT

A 5-year-old male child was brought to the paediatric outpatient department with complaints of snoring while sleeping for 3 months. It was associated with sudden awakenings at night with difficulty in breathing. There was no history of fever, rhinorrhoea, rashes, trauma, swelling, epistaxis or excessive weight gain. There was no significant past or family history. There was no gross facial deformity.

On nasal examination, a 2 × 2 cm mass was present in the right nasal cavity. The nasal bridge was mildly widened. On diagnostic nasal endoscopy, the mass was covered by a thin sac. The posterior aspect of mass could not be made out. There was no gross facial deformity.

The differential diagnoses considered are nasal polyp, nasal dermoid, and NE.

Computed tomography of the head revealed protrusion of brain parenchyma through a defective cribriform plate into the right nasal cavity. The diagnosis of NE was done with clinical and radiological features [Figure 1].

During surgery, protruded frontal lobe parenchyma was pushed back through the defect of the frontal bone by the bicoronal flap approach. A small biopsy was taken from the protruded brain. The bone defect was closed with water-tight dura. Histopathological examination showed mature glial tissue and neurons [Figure 2]. The post-operative period was uneventful. The child is under follow-up for any complications.

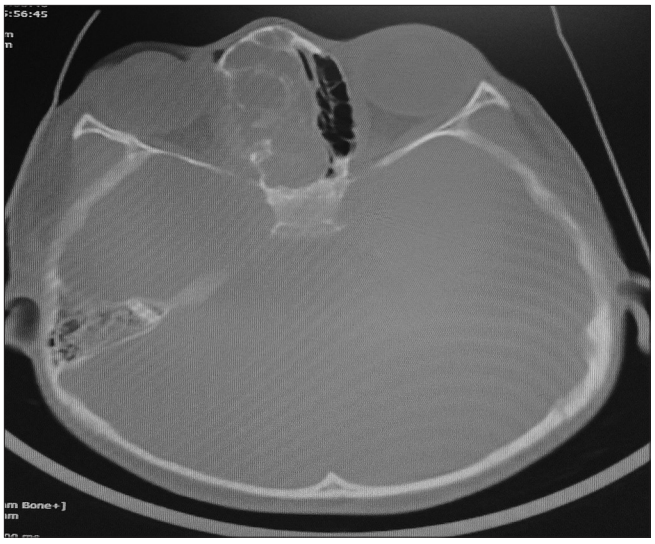

Figure 1: Image of computed tomography head showing protrusion of frontal lobe brain parenchyma into the right nasal cavity.

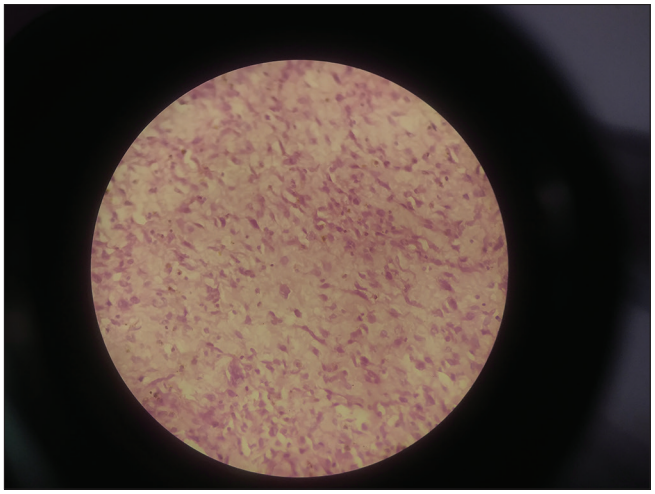

Figure 2: Histopathological examination showed mature glial tissue in fibrillary background (H&E stain, ×1000).

DISCUSSION

The differential diagnoses for nasal masses in children are polyp, angiofibroma, dermoidcyst, rhabdomyosarcoma, glial heterotropia, and encephalocele. NE occurs due to congenital/traumatic skull bone defects. Frontoethmoidal and basal encephaloceles are two types of NE.[3] The present case had frontal type NE.

Encephalocele needs early diagnosis and surgical management as they are prone to recurrent meningoencephalitis due to microbes.[4]

Thus careful handling of nasal mass with a sterile nasal instrument is necessary while NE is suspected clinically. The clinical clues for NE are CSF rhinorrhoea, hypertelorism, widened nasal bridge, midline facial swelling, unilateral nasal mass, or soft nasal mass covered with thin shiny sac (dura). The definitive diagnosis is by magnetic resonance imaging skull which aids in understanding the bony defects as well as intracranial connection of herniated brain mass.

The surgical approach for intranasal encephalocele excision is lateral rhinotomy, transnasal, endoscopic, or coronal flap approach. In the present case, bicoronal flap approach was done.

The closest differential diagnoses for the presence of brain tissue in the nasal cavity are NE, nasal glial hamartoma/heterotopia, and nasal teratoma.[5,6] Histopathological examination helps for definitive diagnosis.

CONCLUSION

Snoring in a child warrants complete oral and respiratory tract examination. The underlying cause can be developmental, neoplastic, or traumatic mass. Encephalocele is a differential diagnosis of nasal mass in a child and presents with snoring, hypertelorism, CSF rhinorrhoea, or facial swelling. Early diagnosis and comprehensive surgical management prevent life-threatening meningoencephalitis.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Tan YH, How CH, Chan YH, Teoh OH. Approach to the snoring child. Singapore Med J 2020;61:170-5.
2. Li HY, Lee LA. Sleep-disordered breathing in children. Chang Gung Med J 2009;32:247-57.
3. Hoving EW. Nasal encephaloceles. Childs Nerv Syst 2000;16:702-6.
4. Dhirawani RB, Gupta R, Pathak S, Lalwani G. Frontoethmoidal encephalocele: Case report and review on management. Ann Maxillofac Surg 2014;4:195-7.
5. Julie CP, Sophie B, Frederique D, Arnaud G. Nasal glial heterotropia: Four case reports with a review of literature. Oral Maxillofac Surg Cases 2019;5:100107.
6. Al Hawsawi K, Alosaimi AK, Aljohani A, Azzhary L, Algethami N. Nasal dermoid cyst: A case report. Cureus 2022;14:e21725.

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