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Çok Düşük Doğum Ağırlıklı Bebekte Nazal Gliom: Olgu Sunumu

Nasal Glioma in an Extremely Low Birth Infant: A Case Report

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ÖZ

Nöroglial heterotopiler nadir görülen konjenital kitlelerdir. Nazal heterotopiler nazal glial heterotopi veya nazal gliom olarak adlandırılır. Ayırıcı tanıda hemanjiom, dermoid / epidermoid kistler, ensefalosel ve tümörler bulunmaktadır. Cerrahi eksizyon tedavi seçeneğidir. Burada literatürde ilk kez tanımlanan çok düşük doğum ağırlıklı bebekte nazal gliom sunulmuştur.

Anahtar Kelimeler: Nazal gliom, prematüre, bebek

Türkçe Kısa Başlık: Nazal Gliom

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ABSTRACT

Neuroglial heterotopias are rare congenital masses. Nasal heterotopies are termed as nasal glial heterotopia or nasal glioma. The differential diagnosis includes hemangioma, dermoid/epidermoid cysts, encephalocel and tumors. Surgical excision is the treatment of choice. We report an extremely low birth weight infant with nasal glioma as firts time in the literature.

Keywords: Nasal glioma, preterm, infant

İngilizce Kısa Başlık: Nasal Glioma

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Introduction

Neuroglial heterotopias are rare congenital masses. They contain mature neuroglial tissue. The nose and nasopharynx are the most common sites of location. Nasal heterotopies are termed as nasal glial heterotopia or nasal glioma. Nasal gliomas are usually benign tumors but have an intracranial extension potential (1,2). The differential diagnosis includes hemangioma, dermoid/epidermoid cysts, encephalocel and tumors. Imaging studies must be performed for differential diagnosis. Complete surgical excision is the treatment of choice (3). We report an extremely low birth weight infant with nasal glioma as first time in the literature.

Case Report

A preterm female neonate with a birth weight of 900 g was born to primigravida mother at 26 weeks of gestation by vaginal delivery. Membranes ruptured 23 days before delivery but there was no chorioamnionitis. Otherwise, prenatal history was unremarkable. Apgar scores were 6 and 7 at 1 and 5 min, respectively. The infant was intubated and placed on mechanical ventilation because of respiratory distress syndrome (RDS) and beractant, 4 mL/kg, was administered via endotracheal tube for RDS. The remainder of the physical examination findings was normal. The infant was extubated on the following day and treated with nasal continuous positive airway pressure for recurrent apnea for ten days. She tolerated feeding with breast milk. A superficial lesion of 0.5x0.5 cm was noticed at the tip of her left nose on the 15th day of life. The overlying skin was slightly telangiectatic. The presumptive diagnosis of a subcutaneous nasal hemangioma was made and she was followed for regression. However, on follow-up 2 months later, size and aspect of the lesion grew gradually and reached to 3x3 cm. A reddish-purple colored, firm, and nonpulsatile subcutaneous mass was located at the anterior surface of her nose including septum and lateral wings of the nostril (Figure 1). Examination of oral cavity, oropharynx, nasopharynx and neck were normal. A 8-Fr feeding tube was passed into oropharynx from nostril.

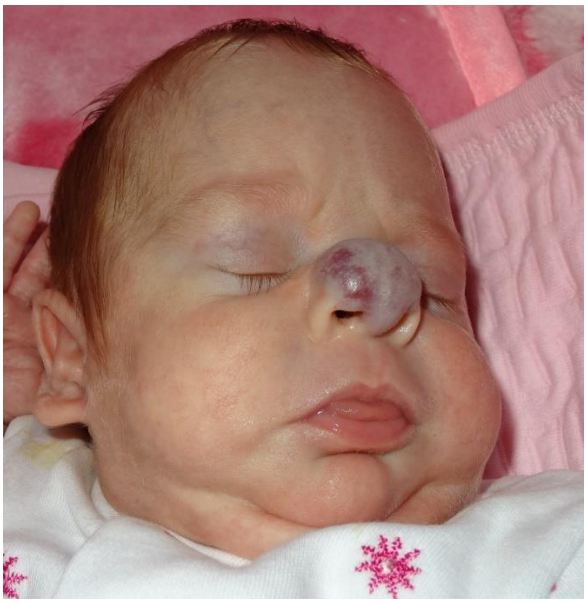

Figure 1. A subcutaneous mass located at the anterior surface of her nose

Color-Doppler ultrasonography (USG) revealed a solid mass with a low flow velocity in the end – diastolic phase. A magnetic resonance imaging (MRI) scan of the cranium demonstrated nasal soft tissue mass with no intracranial connection (Figure 2).

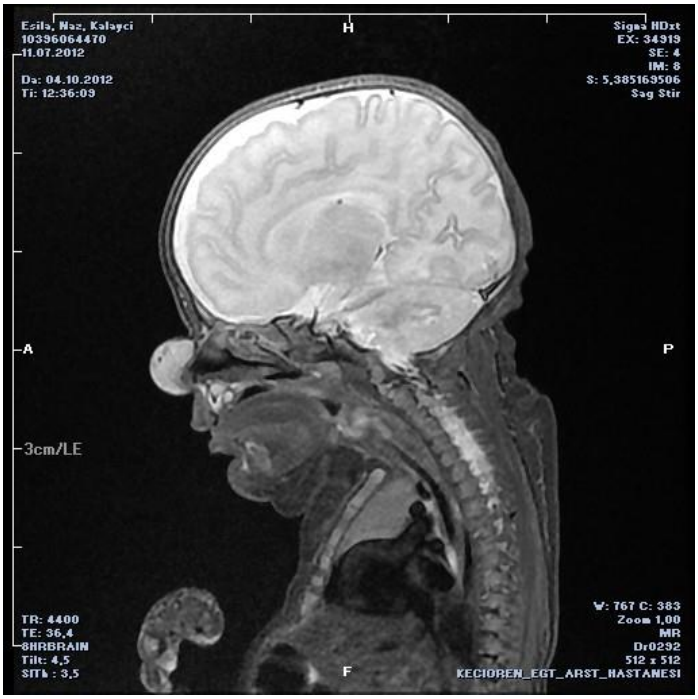

Figure 2. A magnetic resonance imaging scan of the cranium demonstrated nasal soft tissue mass with no intracranial connection

The patient was diagnosed as nasal glioma with examination, color-doppler USG and MRI findings. Firstly, surgical excision was planned but follow-up the patient was planned because of her prematurity. She reached her first birthday and lesion is still 3x3 cm size without erosion or ulcer. We planned to follow up her without surgical intervention unless there were fast grow up of the lesion, erosion or ulcer.

Disscussion

Developmental midline nasal masses occur in about 1 in 20 000-40 000 live births. Among these hemangiomas, nasal glioma, dermoid/epidermoid cysts and anterior meningoencephalocele are the most common (4).

Nasal gliomas account for approximately 5% of all congenital nasal tumors. They are benign non-hereditary congenital midline malformations and composed of heterotopic masses of neuroglial tissue (5). They are not true neoplasm and originate from extracranial ectopic glial tissue following abnormal closure of the nasal and frontal bone during embryonic development (6). Nasal gliomas usually present shortly after birth as an intranasal (30%) or, as in our case, extranasal tumor (60%), or mixed (10%). Extranasal gliomas are firm, incompressible reddish-blue to purple lesion occurring on the nasal bridge or midline near the root (7).

Nasal gliomas differ from encephaloceles in that the latter are connected to the subarachnoid space by a sinus tract, while the former usually lose this connection before birth. Nasal gliomas do not transilluminate or enlarge with crying unlike some encephaloceles (7). Extranasal gliomas are easily confused with hemangiomas since discrete telengiectasia, as in our patient appears to indicate a vascular process. There have been several cases reported in which nasal gliomas were misdiagnosed as capillary hemangiomas (8).

Hemangiomas are common in preterm infants than term infants and this lead us to follow our patient as hemangioma. Nasal gliomas are usually present at birth but in our patient we noticed the lesion on day 15. Unlike typical hemangioma, nasal gliomas are slow-growing masses and the tumor growth rate is consistent with the patient's body growth (9). In our patient, lesion grew to 3x3 cm from 0.5x0.5 cm in

2 months and stayed constant in 1 year. Accurate diagnosis is important because prognosis and management of these lesions are completely different. In cases in which clinical uncertainty exists, noninvasive studies such as USG and doppler flow studies should be performed to differentiate nasal gliomas from capillary hemangiomas. Nasal gliomas demonstrate low arterial flow velocity during the end diastolic phase unlike hemangiomas which show high arterial doppler flow velocity (10). A computed tomography or MRI can be used to rule out intracranial extension. In our patient, color-doppler USG revealed a solid mass with a low flow velocity in the end-diastolic phase and cranial MRI demonstrated nasal soft tissue mass with no intracranial connection.

Treatment of nasal gliomas is surgical resection. Early surgical resection is advocated to prevent local recurrence, nasal deformity, and secondary visual involvement. In our patient we did not performed a surgical resection in 1 year. Lesion grew in 2 months but not after and did not cause nasal deformity, ulcer, or visual involvement. We decided to wait for surgical resection but a surgical intervention will have to be performed in future.

Up to our knowledge, this is the first nasal glioma case reported in an extremely low birth weight preterm infant. Nasal glioma was misdiagnosed as hemangioma because of appearance of lesion and prematurity. Radiologic studies such as USG, color doppler, CT, MRI and close follow-up should be used for differential diagnosis.

References

1. Vuckovic N, Vuckovic D, Dankuc D, et al. Nasal glioma. Arch Oncol 2006:57-9.
2. Husein OF, Collins M, Kang DR. Neuroglial heterotopia causing neonatal airway obstruction: presentation, management, and literature review. Eur J Pediatr 2008;167:1351-5.
3. Pereyra-Rodriguez JJ, Bernabeu-Wittel J, Fajardo M, et al. Nasal glial heterotopia (nasal glioma). J Pediatr 2010;156:688-96.
4. Hoeger PH, Schaefer H, Ussmueller J, et al. Nasal glioma presenting as capillary haemangioma. Eur J Pediatr 2001; 160:84-7.
5. De Biasio P, Scarso E, Prefumo F, et al. Prenatal diagnosis of a nasal glioma in the mid trimester. Ultrasound Obstet Gynecol 2006;27:571-3.
6. Ma KH, Cheung KL. Nasal glioma. Hong Kong Med J 2006;12:477-9.
7. Rahbar R, Resto VA, Robson CD, et al. Nasal Glioma and Encephalocele: Diagnosis and Management. The Laryngoscope 2003;113: 2069–77.
8. Levine MR, Kellis A, Lash R. Nasal glioma masquerading as a capillary hemangioma. Ophthal Plast Reconstr Surg 1993;9:132-4.
9. Puppala B, Mangurten HH, McFadden J, et al. Nasal glioma. Presenting as neonatal respiratory distress. Definition of the tumor mass by MRI. Clin Pediatr (Phila) 1990;29:49-52.
10. Dasgupta NR, Bentz ML. Nasal gliomas: identification and differentiation from hemangiomas. J Craniofac Surg 2003;14:736-8.