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Heterotopic glial tissue in tonsil: a case report

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Case Report

Heterotopic Glial Tissue in Tonsil: a Case Report

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Abstract

We describe a six month old boy with a mass in the left tonsil. It was present since birth and was enlarging progressively. It was completely excised. Histopathology showed a choristoma of neural origin composed of glial cells - astrocytes in a fibrillary background, and a choroid plexus. Immunohistochemistry confirmed the findings.

Introduction

Heterotopic central nervous system tissue or glial tissue are congenital masses which are quite common in the nasal cavity and mostly present at birth or become clinically manifest within the first few years of life.[1,2] However, heterotopic glial tissue in the pharynx is much less common and present as masses causing pharyngeal obstruction.[3,4] These reveal a complex arrangement of neural elements including astrocytes, ependyma, choroid plexuses, and neurons.[3,5]

We present a case of heterotopic glial tissue in the left tonsil of an infant boy.

Case Report

A six month old boy from Bahawalpur presented with progresssive enlargement of his left tonsil since his birth. He began to have difficulty in feeding, and examination revealed a unilateral left sided tonsillar growth. Subsequently, the growth was excised and sent to the Section of Histopathology, Aga Khan University for histopathological examination.

Figure 1.

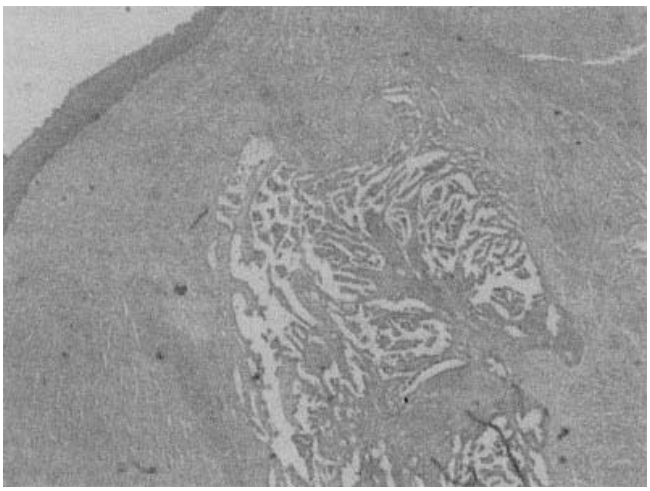

Figure 2.

Grossly, the excised tissue consisted of a nodular light brown piece of tissue, firm in consistency and measuring 2.5 x 2.5 x 1.2 cms in dimension. Cut surface was smooth and pale brown in color. Representative sections were submitted for histopathological examination.

On microscopic examination, tonsillar tissue covered by stratified squamous epithelium was noted. Beneath the epithelium, diffuse sheets of astrocytic cells were seen against a fibrillary background. (Figure 1) Cellular atypia or mitoses were not seen. In other areas, choroid plexus was identified forming a papillary configuration. The papillae were lined by cells with central round to oval nuclei and moderate amount of cytoplasm (Figure 2).

Immunohistochemically, positivity was seen for Glial fibrillary acidic protein (GFAP) in the astrocytic cells.

The cells of the choroid plexus showed positivity for epithelial markers cytokeratins Cam 5.2 and MNF.

A diagnosis of heterotopic glial tissue and choroid plexus in the left tonsil was made.

Discussion

In addition to heterotopic glial tissue, heterotopic bony and cartilaginous tissue[6,7] meningeal tissue[8] and salivary gland tissue[9] have been reported in the tonsil.

As also argued by Farga et al[4], our case was shown to be a choristoma of neural origin composed of glial cells and a choroid plexus, and demonstrates the heterogeneity of cellular types present in a choristoma.

Pharyngeal (tonsillar) glial masses appear to be a distinct entity which must be distinguished from the much more common nasal “gliomas." A number of reported cases

have been associated with cleft palate.[3,5] However, no such history was present in our case.

The child should be followed up for any recurrences. In the case reported by Farga et al[4], the child was followed for ten years after surgery and remained asymptomatic without any recurrences.

References

1. Katz A, Lewis JS. Nasal gliomas. Arch Otolaryngol 1971;94:351-5.
2. Azumi N, Matsuno T, Tateyama M, Inove K. So-called nasal glioma. Acta Pathol Jpn 1984;34:215-20.
3. Seibert RW, Seibert JJ, Jimenez JF, Angtvaco EJ. Nasopharyngeal brain heterotopia - a cause of upper airway obstruction in infancy. Laryngoscope 1984;94:818-9.
4. Carrillo-Farga J, Gutierrez-Palomera G, Mandujano M. Neuroglial choristoma of the pharynx. Ear-Nose-Throat-J 1988;67:579-8, 582-3.
5. Cohen AH, Abt AB. An unusual case of neonatal respiratory obstruction:heterotopic pharyngeal brain tissue. J Pediatr 1970;76:119-22.
6. Bhargava D, Raman R, Khalfan - Al - Abri R, Bushnurmath B. Heterotopia of the tonsil. J Laryngol Otol 1996;110:611-2.
7. Kapoor N, Bhalla J, Pharadwaj VK, Kotgirwar BK. Cartilagenous choristoma of palatine tonsil-a case report. Indian J Pathol Microbiol 2003;46:654-5.
8. Schulz-Bischof K, Donath K, Hopker WW. Ectopic meningioma of the tonsil. Pathologe 1994;15:358-60.
9. Banerjee AR, Soames JV, Birchall JP, Reid C, Bray RJ. Ectopic salivary gland tissue in the palatine and lingual tonsil. Int J Pediatr Otorhinolaryngol 1993;27:159-62.