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Case Report
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A Surgical Approach to Addressing Preauricular Appendages and the Importance of Investigating Associated Malformations

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Abstract

Objective: We describe the successful surgical management of a pediatric patient with multiple preauricular appendages and highlight the importance of early investigation of associated congenital malformations, particularly renal anomalies.

Methods: An eight-year-old boy presented with four congenital preauricular appendages. Imaging of the kidneys and urinary tract, and high-frequency ultrasonography of the preauricular lesions were performed. Surgical excision was subsequently performed under sedation.

Results: The lesions were completely removed, and deep cartilaginous components were identified in two of them. The patient experienced an uneventful postoperative course, with an excellent aesthetic outcome, no hearing loss, and no complications.

Conclusion: Preauricular appendages, even when isolated, may be associated with renal and auditory abnormalities. Comprehensive evaluation and complete surgical excision of the lesions are key to preventing complications including cyst formation and recurrence. While none were identified in this patient, evaluation for associated syndromes is also recommended.

Keywords: Auricular appendages; Congenital malformations; Pediatric surgery; Congenital renal anomalies; External ear

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Introduction

Preauricular appendages are congenital malformations of the external ear associated with abnormal branchial arch development [1]. These structures appear as nodules or protrusions composed of skin, subcutaneous tissue, and/or cartilage located along the tragus and oral commissure, typically in the preauricular region [2].

Although they may occur as isolated findings, studies suggest that approximately one-third of cases are associated with other congenital anomalies, particularly renal and auditory abnormalities [3]. Recognition of this associated risk is essential for appropriate referral and management [4].

This article aimed to report a successful surgical case and discuss the relevance of systemic investigation Figure 1.

Case Presentation

An eight-year-old male patient presented with multiple congenital lesions on the left side

Figure 1: Patient presenting three pedunculated papules in the left preauricular region and one papule in the buccal region.

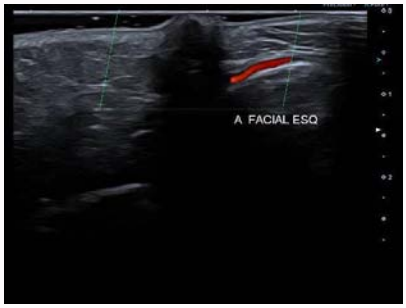

Figure 2: High-frequency ultrasonography revealing buccal lesion proximity to the left facial artery.

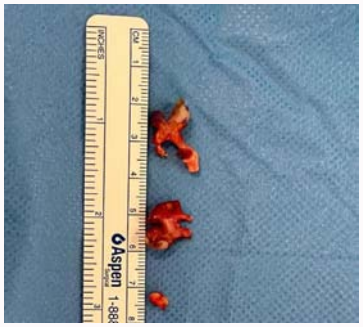

Figure 3: Resected lesions including two deep cartilaginous components. From top to bottom: 1. Lesions in the preauricular region superior to the tragus 2. Buccal region lesion 3. Preauricular region lesion inferior to the tragus.

of his face. Physical examination revealed four normochromic pedunculated papules located in the left preauricular and buccal regions measuring between 5 mm and 9 mm, two of which exhibited cartilaginous content (Figure 2 and 3).

The patient reported slight growth of the lesions over the years and cosmetic concern with psychosocial impact. Renal and urinary tract ultrasonography was performed, finding no abnormalities. Audiometric screening for hearing loss had been previously performed and revealed normal hearing.

High-frequency ultrasonography of the region demonstrated solid hypoechoic lesions with a deep subcutaneous component and no significant vascularization. Surgical excision of the lesions was performed under sedation in the operating room. During the procedure, a deep cartilaginous component was identified in two of the lesions. Dissection was performed carefully, particularly in this anatomically critical region of the face near the facial artery and branches of the facial nerve. The postoperative course was uneventful, with a satisfactory aesthetic result.

Figure 4: Surgical wound appearance seven days postoperatively.

Figure 5: Result five weeks postoperatively.

Discussion

Surgical management of preauricular appendages requires careful attention to potential cartilaginous extensions and to their relationship to adjacent critical anatomical structures. Complete surgical excision minimizes risks of fistula formation, recurrence, and iatrogenic injury [5,6].

Although benign, these appendages have important clinical implications, as they may be associated with renal anomalies including horseshoe kidney or sensorineural hearing loss. Studies have reported associated anomalies in up to 33% of cases (Figure 4) [7-10].

Some genetic syndromes include preauricular appendages as part of their phenotypic spectrum, such as Goldenhar syndrome, branchio-oto-renal syndrome, and Townes-Brocks syndrome. Awareness of these associations promotes appropriate screening and early intervention [11-13].

In the present case, no associated congenital anomalies were identified (Figure 5).

Conclusion

Preauricular appendages, although often considered isolated and primarily cosmetic, may serve as markers of relevant congenital conditions. Comprehensive evaluation and complete surgical excision of the lesions are recommended to ensure optimal management.

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