Dermoid cyst with bone defect in the frontal zygomatic process. A case report

Quiste dermoide con defecto óseo en apófisis cigomática del frontal. Reporte de un caso

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Abstract

A 23 old female, with a mass in the right zygomaticofrontal region beginning from the childhood. Imaging tests show a cyst on the frontal zygomatic process with a total thickness bone defect under the cyst. Surgical resection was performed. The histopathologic examination resulted in dermoid cyst. The monitoring has been satisfactory. We present this case due to the unusual bone defect because usually the orbital dermoid cyst is located on the frontozygomatic suture.

Key words: Orbital dermoid cyst. Eyelid crease approach. Unusual location. Bone defect. Clinical case.

Resumen

Paciente mujer de 23 años, que presenta aumento de volumen en la región frontocigomática derecha, detectada desde la infancia, se realizan estudios de tomografía axial computarizada y topografía helicoidal multifórmula, identificando una lesión quística sobre la apófisis cigomática del frontal, con un orificio de espesor completo del cual emergía la lesión. Se sometió a resección quirúrgica, confirmando por patología el diagnóstico de quiste dermoide; la evolución ha sido satisfactoria. Se presenta el presente caso debido a la rareza del defecto óseo acompañante, dado que generalmente se asocia a una localización sobre la sutura frontocigomática.

Palabras clave: Quiste dermoide orbitario. Abordaje en pliegue palpebral. Localización inusual. Defecto óseo. Caso clínico.

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Figure 1. A: Front view. B: Right lateral view.

Figure 2. A-D: Coronal axial tomography, axial tomography (orbital axial cut). Helicoidal topography, front view and helicoidal topography, right lateral view.

Introduction

Dermoids are classified within the group of choristomas, which are congenital lesions originated from aberrant ectodermal tissue^{1,2}. They usually arise during embryonic closure between two lines of cranial sutures that trap dermal and subdermal tissue forming a cyst³. Fifty percent of skull dermoids are located in the orbit^{4,5}. They have no predilection for race or gender⁶. The clinical presentation is a painless orbital mass with slow growth; deep orbital locations can cause diplopia and proptosis⁷. The most common locations in order of frequency are superior

temporal and superior nasal⁸⁻¹⁰. Spontaneous or traumatic rupture of the cyst can occur, with an intense inflammatory reaction that can mimic an orbital cellulitis¹¹⁻¹³.

Case presentation

A 23-year-old woman attended our ophthalmology service referring increased volume in the right zygomaticofrontal region, identified since childhood, with progressive, painless growth that did not cause any other symptoms (Figs. 1A and B). Biomicroscopy was normal;

Figure 3. A, B: Dissection of dermoid cyst via upper blepharoplasty, frontal bone defect.

Figure 4. Panoramic photomicrograph of the cystic lesion covered by a keratinized squamous epithelium. Hematoxylin and eosin stain.

we identified a mass in the lateral wall of the right orbit, with defined edges, painless on palpation, fixed to deep planes, with a firm consistency of 2 x 2 cm. A computerized axial tomography (CT) of the orbits and multi-form helicoidal topography showed a hypodense mass with a hyperdense central zone in the lateral wall of the right orbit, adjacent to the temporal muscle towards its posterior margin. The lesion measured 23 mm in vertical length, 17 mm in horizontal length and 10 mm in thickness, and did not enhance with contrast medium administration. The CT also showed the full-thickness bone defect of the zygomatic process in the right frontal bone to which the cystic lesion was attached (Figs. 2 A, B, C and D).

Surgical exeresis was performed by upper blepharoplasty, with dissection and identification of the lesion. After complete resection, the 3-mm bone defect was observed, covered with periosteum in its posterior side.

Then, wound closure was performed by planes (Figs. 3A and B). Histopathological study confirmed the diagnosis of orbital dermoid cyst (Fig. 4). The patient has an adequate evolution 8 months after surgery.

Discussion

Most cases of lateral orbital wall dermoids are associated with the zygomaticofrontal suture¹, however; this case was associated with a more superior location in the zygomatic apophysis of the frontal bone, conditioning the presence of an underlying full-thickness bone defect.

Conclusion

It is important to identify orbital lesions, make an adequate anamnesis of the condition and use the available paraclinical resources to identify the nature of the lesions, and offer the appropriate treatment. This type of choristomes is common in our work center; we received this case with an unusual bone path that generated controversy because at first we thought the bone defect was caused by an erosive process; however, it comprises the full thickness of the frontal bone, suggesting an entrapment of ectodermal tissues during embryonic development.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that no patient data appear in this article.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

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Conflicts of interest

The authors declare no conflict of interest.

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