



## A Case Report about Dermoid Cist: Surgical Aspects of this Rare Intraorbital Lesion

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### Abstract

**Introduction:** Intraorbital dermoid cysts are rarely diagnosed in adults, accounting for less than 0.04% to 0.06% of orbital neoplasms in the general population. We report the case of a 69-year-old woman who was treated surgically.

**Case Report:** The patient sought medical attention due to a discreet right unilateral proptosis. Nuclear Magnetic Resonance (NMR) showed a retrograde lesion ipsilateral to proptosis; with hypersignal at T2, suggestive of soft tissue tumor, in view thereof are indicated therapeutic and diagnostic surgical treatments. For this purpose, the eyelid crease incision was used. The lesion was completely resected, the patient recovered well, and the histopathological examination revealed a dermoid cyst.

**Conclusion:** This report is a valuable source of information for surgeons in the area who will handle rare cases, guiding a holistic therapeutic approach that meets the established healing criteria and, both aesthetically and functionally favors the patient.

### Introduction

Orbital Tumors (OT) constitute a disease that presents a broad pathological, etiological, clinical, radiological and surgical aspects and their incidence is influenced by demographic and analytical factors, encompassing malignant and benign entities [1]. Among the benign OTs are Dermoid Cysts (DC), lesions of congenital etiology, characterized by the presence of structures of ectodermal origin in their interior, such as hair follicles, keratin and sebaceous glands [2]. They constitute a common OT in childhood, however, they correspond to only 0.04% to 0.06% of primary orbital neoplasias in the general population, representing a rare finding in adults [3,4]. We report the case of a 69-year-old patient who presented a massive intraorbital dermoid cyst and that was submitted to complete resection of the lesion.

### Case Presentation

A 69-year-old female patient sought medical care due to changes in her right orbit. She presented a slight ocular proptosis associated with an inferior displacement of the right eyeball, that evolved for one year, but without associated pain, diplopia, and loss of visual acuity or reduction of campimetry (Figure 1A). The eye movements were preserved. Orbital Magnetic Resonance Spectroscopy (MRS) showed retro-orbital lesion on the right, with dimensions of 3 cm × 2.5 cm and showing hypersignal in T2. The lesion eroded the lateral orbital wall and had extension to temporal fossa, suggesting soft tissue tumor (Figure 1B). Diagnostic and therapeutic surgical resections were both indicated. During the procedure, it was decided that an eyelid crease incision approach was the best option; osteotomies were performed in the lateral border of the orbit to expose temporal fossa and all of intraorbital lesion (Figure 2A). As a result of surgical manipulation, the lesion ruptured, releasing a thick and yellowish content, which is characteristic of a dermoid cyst. The lesion was completely resected; miniplates were used to fix the lateral border of the orbit (Figure 2B). The patient presented good recovery, without any postoperative complications. The histopathological study result confirmed the suspicion of a dermoid cyst. The recovery was favorable, without any relapse and with excellent aesthetic-functional result (Figure 3).

### Discussion

Dermoid cysts are benign congenital pathologies, constituting typical choristomatous tumors.

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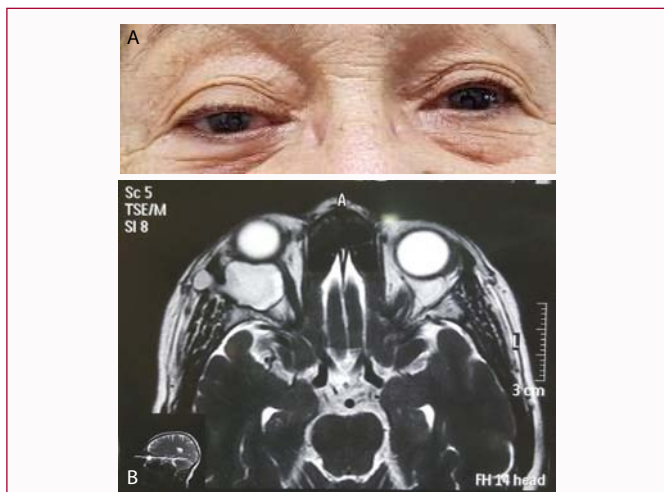
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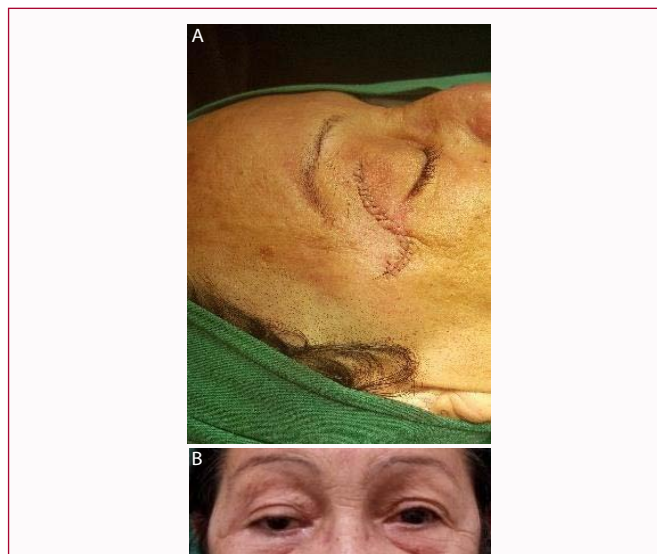
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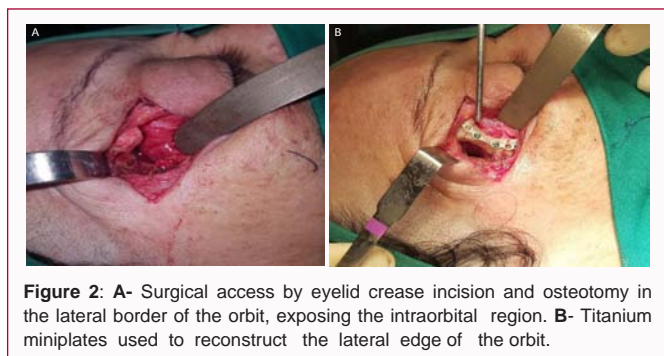
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**Figure 1:** A- Patient in preoperative period, presenting palpebral ptosis and lowering of the right eyeball; B- T2-weighted MRS showing lesion with hypersignal on the right orbital globe. This lesion is retro orbital, it erodes the lateral wall of the orbit and extends itself to the temporal fossa.



**Figure 3:** A - Aspect of the incision immediately after surgery. B - Aesthetic result of the surgery incision.



**Figure 2:** A- Surgical access by eyelid crease incision and osteotomy in the lateral border of the orbit, exposing the intraorbital region. B- Titanium miniplates used to reconstruct the lateral edge of the orbit.

occupy the upper lateral quadrant of the orbit, and its clinical presentation depends on the exact location and size of the tumor [4]. They are usually slow-growing lesions, but they can progress more rapidly if they affect people during adulthood.

The deepest forms of the dermoid cyst, as presented in this report, may arise retro or peribulbarly, more commonly manifested with a progressive exophthalmia, without inflammatory characteristics and without the possibility of manual reduction, and may or may not be accompanied by palpebral ptosis [3]. In some cases, the cyst may compress the optic nerve, impairing the visual acuity of the affected side [6-9], or manifest itself also associated with inflammatory complications [8,10] or hemorrhagic complications [11]. In this scenario, in the case reported, the lesion caused erosion of the lateral wall of the orbit, a complication reported in the literature when manifestations and diagnosis occur later [2,12,13].

Image exams such as CT and Nuclear Magnetic Resonance (NMR) help in the diagnosis of dermoid cysts; CT images usually present the

It occurs predominantly in children, with few reported cases in the literature in adults [5]. They are presented in more superficial or periorbital forms with precocious clinical presentation and diagnosis, as well as in deeper or intraorbital forms, which usually progress for a long period until clinical manifestations arise and the diagnosis is established [3]. When found in the intraorbital region, they mainly

**Table 1:** Bibliographic survey of case reports about intraorbital dermoid cyst in the last 50 years.

n	Autor and year of publication.	Surgical Access	Age in years	Gender
<b>Age Group Under 20 Years</b>				
1	MJC Rogers [7]	Moure's lateral rhinotomy	16	Male
2	Timothy S. Wells [9]	-	9	-
3	Taha S [5]	Right fronto-orbital access with unilateral fronto-orbital component	12	Male
4	Dragan Veselinović [18]	Incision inside the upper eyebrow	8	Male
5	Correa Pérez ME [8]	Anterior orbitotomy through the inner third of the palpebral fold	4	Male
6	Richard P Golden [12]	-	17 e 4	-
<b>Age Group Upper 20 Years</b>				
7	Imtiaz A. Chaudhry [10]	Lateral orbitotomy by upper eyelid crease incision	34 anos	Male
8	Kentaro Kudo [11]	Linear skin incision 4 cm posterior to the lateral corner parallel to the lateral orbital border, followed by osteoplastic lateral orbitotomy	85 anos	Female
9	H. Zaghouani Ben Alaya [13]	Bicoronal access	48 anos	Male
10	Ana Célia Baptista Koifman [19]	-	26 anos	Male
<b>Age Not Reported</b>				
11	L. Knani [2]	Hemicoronal Orbitotomy Transconjunctival access	-	-

cyst as hypodense lesions and not highlighted by contrast, and may present calcifications; in NMR, it commonly presents hyposignal in T1 and hypersignal in T2, characteristics that were observed in the reported case; in both exams, it may show evidence of the presence of oily contents [6,14]. Diagnostic confirmation occurs through histopathological examination of the lesion, that characterizes a laminated pavement epithelial wall and a heterogeneous content [3,13].

The treatment traditionally reported in the literature is the complete surgical excision of the dermoid cyst [14]. When the lesion is intraorbital, the procedure involves complex techniques, due to the distinct anatomy and fragility of the orbital structures [15] and depends, among other aspects, on the location and extent of the lesion, as well as the experience of the surgeon who performs the procedure. In the case reported, the chosen access was with an eyelid crease incision, followed by osteotomies on the lateral border of the orbit. Similar access was used in the approach reported by Imtiaz A. Chaudhry, et al. [9]. This technique arose with the objective of reducing the aesthetic and functional damages caused by the technique of lateral orbitotomy initially proposed by Krönlein, considering that the eyelid crease incision technique allows the dissection in reduced vascular plane, minimal section of the orbicularis muscle and masking of the scar by the palpebral fold lift [16,17].

Going against the surgical approach, Richard P Golden et al. [12], in a retrospective series of two intervention cases, describes a minimally invasive approach for the treatment by means of percutaneous drainage and lesion ablation of the dermoid cysts [18-20].

## Conclusion

Intra-orbitary dermoid cysts are rare lesions, which results in a few case reports regarding the approaches of these lesions. Thus, it is essential that such reports are disclosed, as they are important sources of research for surgeons who are faced with this type of case for the first time. Thus, it is possible to add multicenter knowledge and to establish more holistic approaches for these neoplasias, satisfying the surgical demands to guarantee the cure, as well as the complete aesthetic and functional rehabilitation of the patient.

## References

- Knani L, Gatfaoui F, Krifa F, Mahjoub H, Daldoul N, Hamida FBH. Les kystes dermoïdes orbitopalpébraux: étude clinique et résultats thérapeutiques. *J Français d'Ophthalmologie*. 2015;38(10):950-4.
- Civit T, Joud A, Klein O. Congenital orbital tumors in adults (dermoid cysts). *Neurochirurgie*. 2010;56(2-3):183-6.
- Yeola M, Joharapurkar SR, Bhole AM, Chawla M, Chopra S, Paliwal A. Orbital floor dermoid: an unusual presentation. *Indian J Ophthalmol*. 2009;57(1):51-2.
- Chung EM, Murphey MD, Specht CS, Cube R, Smirniotopoulos JG. From the archives of the AFIP pediatric orbit tumors and tumorlike lesions: osseous lesions of the orbit. *Radiographics*. 2008;28(4):1193-214.
- Pham NS, Dublin AB, Strong EB. Dermoid cyst of the orbit and frontal sinus: a case report. *Skull base*. 2010;20(4):275.
- Jung WS, Ahn KJ, Park MR, Kim JY, Choi JJ, Kim BS, et al. The radiological spectrum of orbital pathologies that involve the lacrimal gland and the lacrimal fossa. *Korean J Radiol*. 2007;8(4):336-42.
- Taha S, Doe K, Compeyre S, Nogues L, Lopes M, Leriche B. Kyste dermoïde intraorbitaire: un cas. *Neurochirurgie*. 2009;55(6):577-80.
- Rogers MJC, Veitch DY, Quiney RE. Intraorbital dermoid: an ophthalmological problem solved by an ENT approach. *J Laryngol Otol*. 1988;102(6):541-2.
- Chaudhry IA. Management of deep orbital dermoid cysts. *Middle East Afr J Ophthalmol*. 2008;15(1):43-5.
- Pérez MEC, Sánchez-Tocino H, Mateos GB. Quiste dermoïde en la infancia bajo el diagnóstico de ptosis. *Archivos de la Sociedad Española de Oftalmología*. 2010;85(6):215-7.
- Wells TS, Harris GJ. Orbital dermoid cyst and sinus tract presenting with acute infection. *Ophthalmic Plast Reconstr Surg*. 2004;20(6):465-7.
- Veselinović D, Krasić D, Stefanović I, Veselinović A, Radovanović Z, Kostić A, et al. Orbital dermoid and epidermoid cysts: case study. *Srp Arh Celok Lek*. 2010;138(11-12):755-9.
- Golden RP, Shiels II WE, Cahill KV, Rogers GL. Percutaneous drainage and ablation of orbital dermoid cysts. *J AAPOS*. 2007;11(5):438-42.
- Alaya HZB, Gaha M, Limem Y, Karmani W, Mziou Z, Amara H, et al. Kyste dermoïde intraorbitaire. À propos d'une observation et revue de la littérature. *Journal Français d'Ophthalmologie*. 2013;36(2):172-8.
- Kudo K, Tsutsumi S, Suga Y, Okura H, Abe Y, Yasumoto Y, et al. Orbital dermoid cyst with intratumoral inflammatory hemorrhage. *Neurologia medico-chirurgica*. 2008;48(8):359-62.
- Koifman ACB, Carneiro BG, Prota Filho LEB, de Araújo NEC, de Azevedo CM, Cerqueira VB. Aspectos tomográficos da órbita aguda infecciosa: revisão de literatura. *Rev Bras Oftalmol*. 2014;73(2):112-6.
- Honavar SG, Manjandavida FP. Recent Advances in Orbital Tumors--A Review of Publications from 2014-2016. *Asia Pac J Ophthalmol (Phila)*. 2017;6(2):153-8.
- Campbell AA, Grob SR, Yoon MK. Novel surgical approaches to the orbit. *Middle East Afr J Ophthalmol*. 2015;22(4):435-41.
- Harris GJ, Logani SC. Eyelid crease incision for lateral orbitotomy. *Ophthalmic Plast Reconstr Surg*. 1999;15(1):9-16.
- Abouchadi A, Capon-Degardin N, Martinot-Duquennoy V, Pellerin P. Orbitotomie latérale par voie palpébrale supérieure. *Annales de Chirurgie Plastique Esthétique*. 2005;50(3):221-7.