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

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CASE REPORT

Eyelid Dermoid Cyst: A Case Report


Palpebral Kista Dermoid

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ABSTRACT

Dermoid and epidermoid cysts are prevalent benign orbital tumors in childhood, representing 3-9% of pediatric ocular tumors. Occasionally, dermoid cysts can attain significant size, leading to cosmetic deformities. A precise surgical approach to dermoid cysts can lead to considerable cosmetic improvement for the patient.

A 19-year-old female presented with swelling in the outer corner of her left eye, accompanied by minor discomfort in the affected area. Upon ophthalmologic examination 1.5x1 cm masses were detected in the upper left eyelid near the lateral canthus. Clinical diagnosis of Dermoid cyst left eye upper eyelid made. Subsequently, a surgical excision under general anesthesia was scheduled. During the procedure, the cyst was successfully excised while preserving the cyst wall integrity. The conclusion is imperative for ophthalmologists to recognize the necessity of precisely performing surgical excision of these cysts to achieve favorable functional and aesthetic outcomes.

Keywords: Dermoid Cyst; Epidermoid Cyst; Surgical Management; Pediatric Ocular Tumors; Eyelid.

ABSTRAK

Epidermoid dan dermoid merupakan tumor jinak pada orbita yang paling sering ditemukan pada anak dengan prevalensi 3-9%. Pada keadaan tumor yang besar dapat menyebabkan gangguan kosmetik pada penderitanya. Tindakan operatif sebaiknya dilakukan secara terencana agar didapatkan hasil kosmetik yang baik untuk Pasien

Perempuan 19 tahun datang dengan keluhan pembengkakan pada bagian atas kelopak atas mata kiri. Pada pemeriksaan didapatkan benjolan dengan ukuran 1.5x1 cm pada lateral kelopak mata dekat kantung lateral. Pasien didiagnosis dengan kista dermoid palpebra superior mata kiri. Pasien dilakukan Tindakan operatif dalam anestesi umum. Kista dermoid dieksisi secara utuh.

Kesimpulannya adalah sangat penting bagi dokter mata untuk melakukan tindakan eksisi terencana untuk mencapai hasil estetik dan fungsi yang baik.

Kata Kunci: Kista Dermoid; Kista Epidermoid; Penatalaksanaan Operatif; Tumor Pada Anak; Kelopak Mata.

INTRODUCTION

Dermoid and epidermoid cysts are relatively common benign orbital tumors of childhood, constituting 5-9% of pediatric ocular tumors and accounting for 3-9% of all orbital masses.¹⁻⁴ These cysts typically arise from the sequestration of surface ectodermal elements during the closure of fetal suture lines in embryogenesis, often co-occurring with other congenital abnormalities. They can manifest in various locations within the orbit, such as the supratemporal and lacrimal sac areas.²⁻⁴ Superficial cysts tend to become symptomatic during childhood, whereas deeper orbital dermoids may not become clinically apparent until adulthood.^{1-4,6-7}

Orbital dermoid cysts most frequently appear in the lateral brow near the Fronto-Zygomatic Suture (FTZ), presenting as smooth, painless, oval masses that grow slowly. These masses may exhibit mobility or may be fixed to the periosteum at the underlying suture.^{1,5,8-9}

Surgical excision stands as the primary treatment for dermoid cysts, supported by numerous case reports confirming this approach through histopathological analysis. Overall, complete surgical excision remains the cornerstone for managing eyelid dermoid cysts, emphasizing meticulous removal to achieve favorable cosmetic results and minimize the likelihood of recurrence.⁵

CASE REPORT

A 19-year-old female presented to the outpatient department with complaints of swelling in the upper eyelid of her left eye, accompanied by mild intermittent pain in the affected area. The parents reported noticing this change when she was a year old, with intermittent growth observed over the past few years. There were no reports of diplopia on vertical gaze.

The ophthalmic examination revealed normal visual acuity in both eyes (1.0), normal intraocular pressure (13,4 mmHg), and unremarkable findings on both biomicroscopic and ophthalmologic assessments. Eye movements were within normal limits. Examination of the left eye identified a 1.5 cm x 1cm protrusion located 1/3 laterally from the upper eyelid margin, 0.5 cm above it. A tender, cystic structure measuring 0.5cm was palpable and fixed to the subcutaneous tissue. A clinical diagnosis of a dermoid cyst in the left upper lid was established, with X-ray imaging performed to assess orbital involvement and bone erosion. A surgical excision under general anesthesia was scheduled.

On 15 July 2023, an excision surgery was conducted wherein a horizontal incision was performed along the eyelid crease, leading to the dissection of the skin. The cyst wall was then located, and through careful blunt dissection, it was separated from its surrounding attachment. Subsequently, precise sharp dissection was carried out until the surface of the cyst was reached, allowing for the complete removal of the cyst without causing any rupture to its wall. The wound was then closed using a Nylon 6-0 suture. The excised specimen was sent for histopathological examination which revealed the presence of squamous epithelium lining with dermal components such as hair follicles, sebaceous, and sweat glands, thereby confirming the diagnosis of a dermoid cyst. Postoperatively, the patients exhibited a favorable cosmetic outcome, with no signs of inflammatory response during the subsequent follow-up examination. Wound closure was performed with Nylon 6-0 suture.

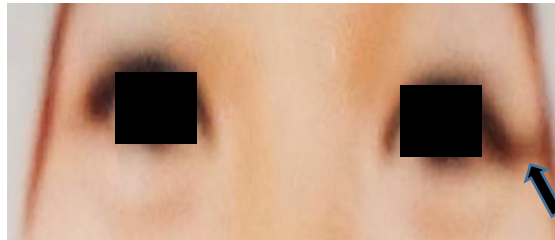


Figure 1. Pre-operative

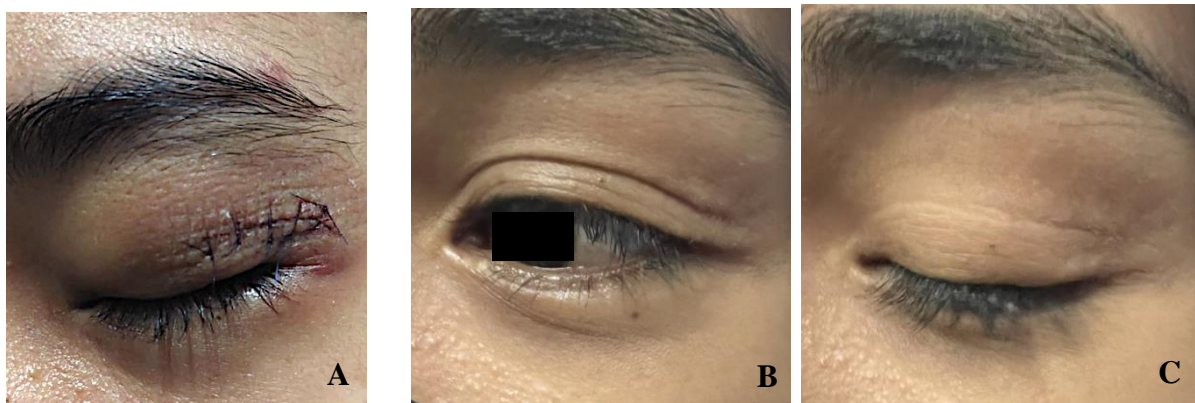


Figure 2. Post-operative: A. day-1, B and C. 1 month.

DISCUSSION

Dermoid cyst represents the frequently used clinical term for benign cystic teratoma, choriostoma resulting from the entrapment of surface ectoderm into underlying mesenchyme along the embryonic line of fusion.¹ These cysts emerge as a consequence of the proliferation of epidermal cells within a restricted region of the dermis.¹⁰ The majority of dermoid cysts identified in ophthalmic clinical scenarios are superficial, typically presenting in early childhood as noticeable swellings in the eyebrow or eyelid.^{1,3,4} Orbital dermoid cysts can be categorized according to several criteria including juxta-sutural, sutural, or soft tissue location; superficial or deep positioning; intraosseous or extraosseous presence; and intraorbital or extraorbital localization. Periocular and orbital dermoid cysts are commonly divided into superficial and deep lesion categories.^{1,4,10} Certain inherited syndromes have been linked to epidermoid cysts such as Gardner syndrome, basal cell nevus syndrome, and pachyonychia congenital.² These cysts, which are smooth, painless, and either mobile or partially mobile, typically appear in the FTZ region. Symptoms such as proptosis, displacement, ptosis, or diplopia, which vary based on the depth and size of the cysts. Dermoid cysts in the orbit are commonly linked with the Fronto-Zygomatic and Fronto-Ethmoidal sutures, which play a significant role in their developmental process.^{5,6,8,9}

Deep orbital dermoid cysts are seldom observed, challenging to diagnose, and necessitate more elaborate surgical procedures such as orbitotomy. Typically, the identification of an orbital

dermoid is established before surgery through the assessment of the cyst's location, texture, and characteristic features on imaging modalities like X-ray or CT-scan.^{6-8,10}

Orbital dermoids require surgical excision due to their tendency to increase in size and release their contents into surrounding tissues. The cyst's contents are highly irritating and can lead to a severe inflammatory response, which results in fibrosis. It is advised to completely remove the dermoid together with its cyst wall through a surgical method that allows for ideal access to all parts of the lesion^{1,5,11} While the primary aim of surgery is the total removal of epidermal and dermal component, some patients may manifest with the recurrent intraorbital lesion, introducing the challenging aspect of a delicate, scarred cyst all adhering closely to normal orbital structures. Aggressive removal of the recurrent lining may result in functional deficits postoperatively. In certain instances, although not ideal, surgical fistulization or marsupialization may be considered as a feasible alternative.⁵

In 1988, Kronish and Dorzbach provided a summary of previously proposed methods for removing dermoid cysts, which include: (1) performing a direct incision directly over the mass, (2) making incisions above, below, or through the eyebrow, (3) utilizing a superomedial approach through a Lynch incision, (4) performing medial lid splitting, (5) conducting a lateral canthotomy, and (6) making an incision in the upper lid crease.¹

An incision in the eyelid crease is recommended for the management of superficial supertemporal dermoid cysts. This particular incision provides favorable exposure, helps avoid vital structures, and results in an improved cosmetic outcome. When dealing with cysts located anterior to the FTZ, a superior eyelid crease incision offers sufficient exposure and favorable cosmetic results compared to an incision directly above the lesion.^{4,5} Cysts located well above the FTZ necessitate an infra-brow or low intra-brow incision to reduce the risk of frontal branch of the facial nerve damage associated with an eyelid crease approach, and to prevent inadvertent transection of the frontalis muscle that may occur with an incision directly over the cysts.^{5,13} Intraorbital cysts that expand from the lateral orbital wall sutures may present in early childhood but are more frequently diagnosed in adolescence and adulthood, as proptosis resulting from cyst expansion becomes more apparent.^{1,4,5} The majority of the lateral intraorbital dermoid cysts demonstrate osseous involvement, potentially leading to pressure erosion or an atypical morphology, emphasizing the significance of understanding the interaction between the cyst and bone in surgical planning. Complete excision of all epidermal elements of the cyst is imperative, and in instances where there exists a close association between the cyst wall and the bone, bone burring might be deemed necessary.^{4,8,9}

Aspiration of cyst walls was contraindicated owing to the potential recurrence of the cyst and the provocation of a severe inflammatory response. Poorly planned, delayed, partial removal or inadvertent rupture of the cyst could trigger an inflammatory reaction and lead to lasting consequences such as the development of an orbiculate fistula.^{1,8,9}

Complications associated with epidermoid cysts include infection, malignant transformation, and rupture. The frequency of malignant transformation from an epidermoid cyst to cutaneous squamous cell carcinoma is typically low, varying from 0.011% to 0.045%. In our case, there were no visible clinical signs of infection.^{14,5}

CONCLUSION

Depression and obesity are two prevalent disorders with a substantial influence on worldwide health and are closely linked and important health conditions. Various factors, including biological, psychological, and behavioral aspects, can impact the intricate relationship between depression and obesity, and play a role in maintaining the two-way relationship.

Interactions between modern antidepressants and newer antipsychotic medications are often significant in clinical practice. Weight gain is a common side effect of antidepressants and antipsychotics. Therefore, it is crucial to educate patients about drug side effects, hunger regulation, the importance of family support, and regular exercise from the start of treatment for depression and obesity. It is also crucial for psychiatrists and dietitians to collaborate to get the best therapeutic outcomes for patients with obesity and depression.

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AUTHORS CONTRIBUTION

All authors contributed to this article.

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CONFLICT OF INTEREST

We declare that we have no conflicts of interest to disclose.

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Eyelid Dermoid Cyst: A Case Report

by Anggraeni Adiwardhani FK

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CASE REPORT

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CASE REPORT

A 19-year-old female presented to the outpatient department with complaints of swelling in the upper eyelid of her left eye, accompanied by mild intermittent pain in the affected area. The parents reported noticing this change when she was a year old, with intermittent growth observed over the past few years. There were no reports of diplopia on vertical gaze.

The ophthalmic examination revealed normal visual acuity in both eyes (1.0), normal intraocular pressure (13,4 mmHg), and unremarkable findings on both biomicroscopic and ophthalmologic assessments. Eye movements were within normal limits. Examination of the left eye identified a 1.5 cm x 1cm protrusion located 1/3 laterally from the upper eyelid margin, 0.5 cm above it. A tender, cystic structure measuring 0.5cm was palpable and fixed to the subcutaneous tissue. A clinical diagnosis of a dermoid cyst in the left upper lid was established, with X-ray imaging performed to assess orbital involvement and bone erosion. A surgical excision under general anesthesia was scheduled.

On 15 July 2023, an excision surgery was conducted wherein a horizontal incision was performed along the eyelid crease, leading to the dissection of the skin. The cyst wall was then located, and through careful blunt dissection, it was separated from its surrounding attachment. Subsequently, precise sharp dissection was carried out until the surface of the cyst was reached, allowing for the complete removal of the cyst without causing any rupture to its wall. The wound was then closed using a Nylon 6-0 suture. The excised specimen was sent for histopathological examination which revealed the presence of squamous epithelium lining with dermal components such as hair follicles, sebaceous, and sweat glands, thereby confirming the diagnosis of a dermoid cyst. Postoperatively, the patients exhibited a favorable cosmetic outcome, with no signs of inflammatory response during the subsequent follow-up examination. Wound closure was performed with Nylon 6-0 suture.

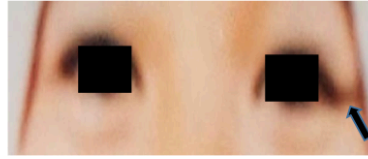


Figure 1. Pre-operative

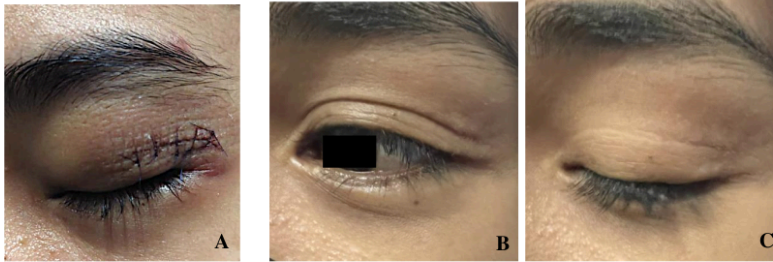


Figure 2. Post-operative: A. day-1, B and C. 1 month.

DISCUSSION

Dermoid cyst represents the frequently used clinical term for benign cystic teratoma, choriostoma resulting from the entrapment of surface ectoderm into underlying mesenchyme along the embryonic line of fusion.¹ These cysts emerge as a consequence of the proliferation of epidermal cells within a restricted region of the dermis.¹⁰ The majority of dermoid cysts identified in ophthalmic clinical scenarios are superficial, typically presenting in early childhood as noticeable swellings in the eyebrow or eyelid.^{1,3,4} Orbital dermoid cysts can be categorized according to several criteria including juxta-sutural, sutural, or soft tissue location; superficial or deep positioning; intraosseous or extraosseous presence; and intraorbital or extraorbital localization. Periocular and orbital dermoid cysts are commonly divided into superficial and deep lesion categories.^{1,4,10} Certain inherited syndromes have been linked to epidermoid cysts such as Gardner syndrome, basal cell nevus syndrome, and pachyonychia congenita.² These cysts, which are smooth, painless, and either mobile or partially mobile, typically appear in the FTZ region. Symptoms such as proptosis, displacement, ptosis, or diplopia, which vary based on the depth and size of the cysts. Dermoid cysts in the orbit are commonly linked with the Fronto-Zygomatic and Fronto-Ethmoidal sutures, which play a significant role in their developmental process.^{5,6,8,9}

Deep orbital dermoid cysts are seldom observed, challenging to diagnose, and necessitate more elaborate surgical procedures such as orbitotomy. Typically, the identification of an orbital

dermoid is established before surgery through the assessment of the cyst's location, texture, and characteristic features on imaging modalities like X-ray or CT-scan.^{6-8,10}

Orbital dermoids require surgical excision due to their tendency to increase in size and release their contents into surrounding tissues. The cyst's contents are highly irritating and can lead to a severe inflammatory response, which results in fibrosis. It is advised to completely remove the dermoid together with its cyst wall through a surgical method that allows for ideal access to all parts of the lesion.^{15,11} While the primary aim of surgery is the total removal of epidermal and dermal component, some patients may manifest with the recurrent intraorbital lesion, introducing the challenging aspect of a delicate, scarred cyst all adhering closely to normal orbital structures. Aggressive removal of the recurrent lining may result in functional deficits postoperatively. In certain instances, although not ideal, surgical fistulization or marsupialization may be considered as a feasible alternative.⁵

In 1988, Kronish and Dorzbach provided a summary of previously proposed methods for removing dermoid cysts, which include: (1) performing a direct incision directly over the mass, (2) making incisions above, below, or through the eyebrow, (3) utilizing a superomedial approach through a Lynch incision, (4) performing medial lid splitting, (5) conducting a lateral canthotomy, and (6) making an incision in the upper lid crease.¹

An incision in the eyelid crease is recommended for the management of superficial supertemporal dermoid cysts. This particular incision provides favorable exposure, helps avoid vital structures, and results in an improved cosmetic outcome. When dealing with cysts located anterior to the FTZ, a superior eyelid crease incision offers sufficient exposure and favorable cosmetic results compared to an incision directly above the lesion.^{4,5} Cysts located well above the FTZ necessitate an infra-brow or low intra-brow incision to reduce the risk of frontal branch of the facial nerve damage associated with an eyelid crease approach, and to prevent inadvertent transection of the frontalis muscle that may occur with an incision directly over the cysts.^{5,13} Intraorbital cysts that expand from the lateral orbital wall sutures may present in early childhood but are more frequently diagnosed in adolescence and adulthood, as proptosis resulting from cyst expansion becomes more apparent.^{14,5} The majority of the lateral intraorbital dermoid cysts demonstrate osseous involvement, potentially leading to pressure erosion or an atypical morphology, emphasizing the significance of understanding the interaction between the cyst and bone in surgical planning. Complete excision of all epidermal elements of the cyst is imperative, and in instances where there exists a close association between the cyst wall and the bone, bone burring might be deemed necessary.^{4,8,9}

Aspiration of cyst walls was contraindicated owing to the potential recurrence of the cyst and the provocation of a severe inflammatory response. Poorly planned, delayed, partial removal or inadvertent rupture of the cyst could trigger an inflammatory reaction and lead to lasting consequences such as the development of an orbiculate fistula.^{1,8,9}

Complications associated with epidermoid cysts include infection, malignant transformation, and rupture. The frequency of malignant transformation from an epidermoid cyst to cutaneous squamous cell carcinoma is typically low, varying from 0.01% to 0.045%. In our case, there were no visible clinical signs of infection.^{14,5}

CONCLUSION

Depression and obesity are two prevalent disorders with a substantial influence on worldwide health and are closely linked and important health conditions. Various factors, including biological, psychological, and behavioral aspects, can impact the intricate relationship between depression and obesity, and play a role in maintaining the two-way relationship.

Interactions between modern antidepressants and newer antipsychotic medications are often significant in clinical practice. Weight gain is a common side effect of antidepressants and antipsychotics. Therefore, it is crucial to educate patients about drug side effects, hunger regulation, the importance of family support, and regular exercise from the start of treatment for depression and obesity. It is also crucial for psychiatrists and dietitians to collaborate to get the best therapeutic outcomes for patients with obesity and depression.

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AUTHORS CONTRIBUTION

All authors contributed to this article.

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CONFLICT OF INTEREST

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We declare that we have no conflicts of interest to disclose.

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