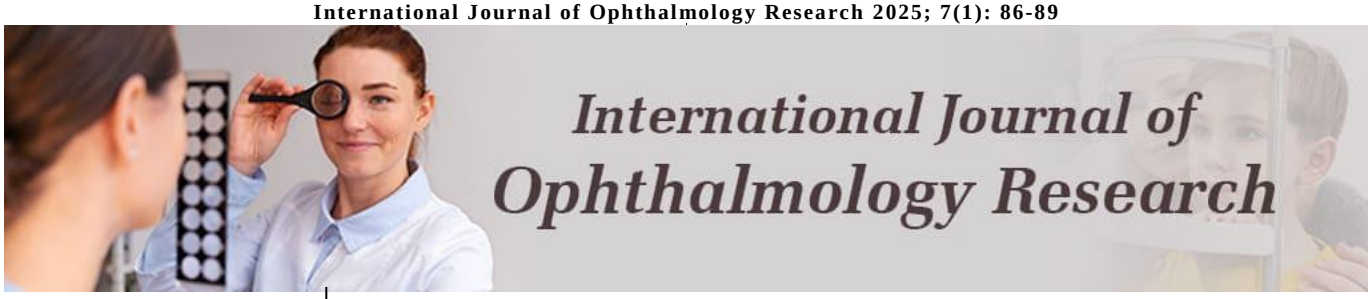

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Epibulbar dermoid in an adult male: A rare case report with clinical, radiological, and surgical correlation

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Abstract
Background: Epibulbar dermoid are congenital benign tumors categorized as choristomas, comprising ectopic tissue of ectodermal and mesodermal origin. They typically present during childhood and are frequently discovered incidentally during routine eye examination. Adult presentations are uncommon and, therefore, pose unique diagnostic and management challenges. These lesions, though benign, may mimic other ocular surface masses, thereby requiring careful evaluation.
Case Presentation: We present a case of a 37-year-old male with a gradually progressive, painless mass over the left eyeball of three years' duration. Clinical evaluation revealed a firm, pinkish subconjunctival lesion measuring 1.5 × 2 cm in the inferotemporal quadrant, hair-bearing, smooth, and adherent to the sclera. Visual acuity was preserved (6/6 in both eyes), and there was no corneal involvement or motility restriction. The differential diagnosis included dermolipoma, conjunctival cyst, granuloma, and atypical pterygium. CT imaging excluded intraocular or intraorbital extension. The lesion was surgically excised under local anesthesia; a specimen measuring 1 × 0.9 cm was obtained and sent for histopathological confirmation. Postoperatively, the patient maintained full vision and ocular motility, with mild subconjunctival hemorrhage noted. The patient was followed up with satisfactory cosmetic outcome and absence of recurrence.
Conclusion: Adult-onset epibulbar dermoids are rare and demand a high index of suspicion for diagnosis. Imaging, coupled with histopathological evaluation, ensures accurate confirmation. Surgical excision remains the treatment of choice for symptomatic or cosmetically significant lesions. This case underscores the importance of early identification and surgical management of epibulbar dermoids to preserve vision and achieve favorable outcomes.

Keywords: Epibulbar dermoid, choristoma, ocular surface mass, excision, case report

Introduction
Refractive Errors are the most common cause of vision problem. It is the inability of eye to focus image clearly from outside world which results in blurring of vision and visual impairment. Visual Impairment is defined as a functional limitation of the eye (s) or the visual perception [2]. Visual impairment ranges in severity from mild visual loss to total absence of light perception [1, 2].
Uncorrected Epibulbar dermoids are birth defects that fall under a group called ocular surface choristomas [1]. These are not cancerous and are made up of normal body parts that are in the wrong place. When looking at them under a microscope, they may include parts like oil glands, sweat glands, and hair roots [2]. These growths are most often found at the edge where the eye meets the eyelid, especially near the lower and outer part of the eye. They are often linked to Goldenhar syndrome and other facial birth conditions [3, 4]. In terms of how they look in the eye, epibulbar dermoids are split into three levels based on how much they affect the eye. Level 1 is small and only on the surface of the eye's edge. Level 2 goes deeper into the eye's clear covering. Level 3 spreads into the front part of the eye [5]. Most of the time, these appear during childhood. Finding them in adults is rare and can make diagnosis harder since they might resemble other eye or eye socket issues [6]. We are sharing the case of a man in his 30s who had a big, hairy growth on his eye. This case highlights the medical, imaging, and surgical aspects of epibulbar dermoids

Case Report

- **Patient Information:** A 37-year-old man from a rural area. Came to the eye clinic with a growing mass on his left eye for three years. The mass was not painful but made him feel like something was in his eye and caused him to feel self-conscious. He had no history of eye injury, redness, watering, discharge, or loss of vision. He hadn't used any eye drops or other medicines for his symptoms.
- **Medical, Family, and Personal History:** He was healthy without any major health problems. There was no family history of eye issues. His lifestyle was normal with no addictions or allergic reactions to medications.
- **Clinical Examination:** Overall, the body wasn't showing any issues. Looking at his eyes: - The right eye was normal in all aspects. - The left eye had a smooth, raised, oval mass that was about 1.5 cm by 2 cm. It was located in the lower and outer part of the eye, extending from the edge of the eye toward the front. The back part of the mass couldn't be seen. It felt a bit pink, had hair, was firm, and stuck to the eye's white part. The surrounding eye tissue was inflamed but not tender. Other eye measurements were within normal limits.

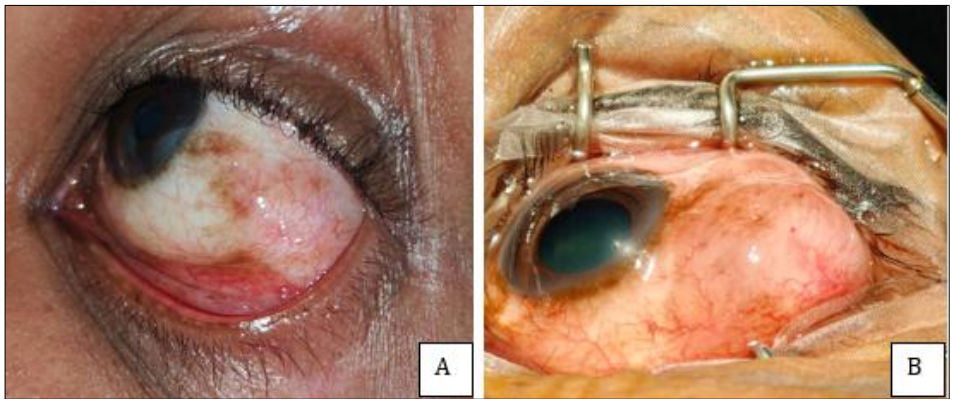

Fig 1 (A & B): A smooth, raised, oval mass measuring 1.5 cm by 2 cm located in the lower and outer part of the eye, extending from the edge toward the front. Its back part could not be assessed.

Differential Diagnosis

Other conditions we considered included [7, 8]:

- Dermolipoma, which is a type of eye growth that has fat.
- Conjunctival inclusion cyst, which is a sac-like growth on the eye.
- Conjunctival granuloma, a small, inflamed area on the eye.
- Atypical pterygium, which is a growth on the eye's surface.
- Staphyloma, a bulging part of the eye's wall.
- Ectopic lacrimal gland tissue, which is a tear gland in the wrong place.

Investigations: We did tests in order to get more information about the mass [9]: A CT scan of the eye and brain showed a well-defined mass that was on the surface of the eye and didn't spread into the eye or around it. Blood tests showed nothing wrong. These findings helped us confirm that the diagnosis was an epibulbar dermoid.

Fig 2 (A, B & C): CT scan with coronal, axial, saggital sections showing a well-defined mass on the surface of the eye and not spreading into the eye or around it.

Treatment and Surgical Intervention

Because the man was worried about how it looked and had ongoing symptoms, we planned to remove the growth [10]. We cleaned the eye and covered it properly to prevent infection. We used a special tool to hold the eyelid open. We carefully marked the edges of the growth and made a cut on top of the mass. We then carefully lifted the covering tissue away from the growth using special surgical tools. The growth was then carefully removed using a mix of gentle and precise cutting techniques. We checked the eye's white part for any thinning and covered the exposed area with nearby tissue using very fine stitches. We used a small amount of heat to control any bleeding, ensuring the eye surface looked smooth and was properly protected. The removed tissue was about 1 cm by 0.9 cm and sent for further testing. During the surgery, we confirmed the growth was only on the outer layer of the eye and the surrounding tissue, without any thinning or deeper spread

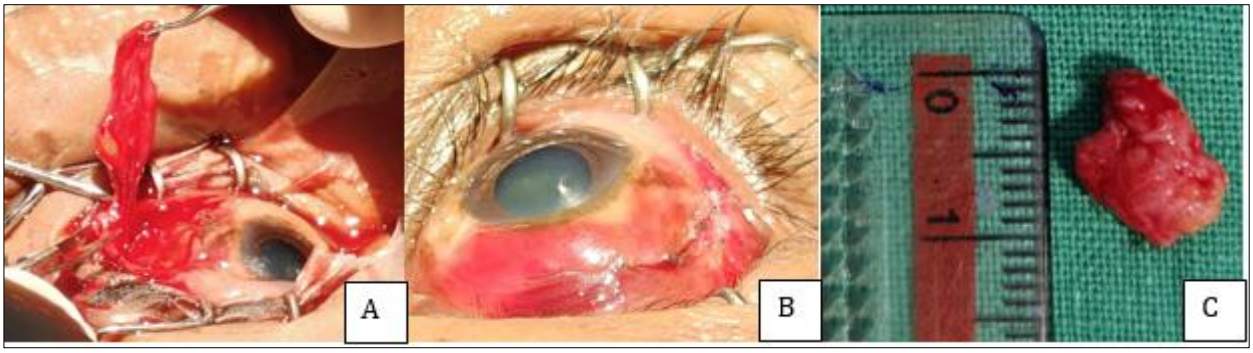

Fig 3 (A, B & C): Images showing the surgical removal of a mass measuring 1 cm by 0.9 cm and sent for testing.

Postoperative Course On the first day after surgery, the man's vision was 6/6, and he had no double vision or movement problems. He had some minor bleeding under the covering layer of the eye, which went away over time. His pupil reactions were normal, and there were no signs of infection. He left with eye drops and lubricants and was told to come back for follow-up. At one month, the eye had healed well, the surface was normal, and the appearance was good with no return of the growth.

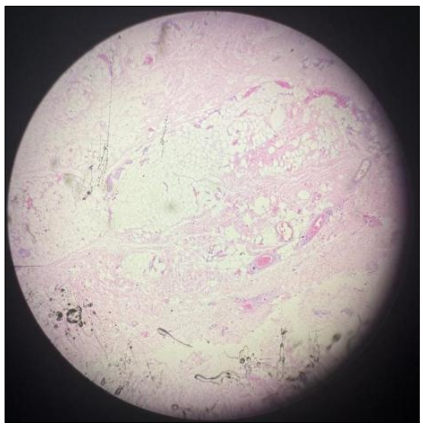

Fig 4: A picture showing the tissue sample from the left eye, which includes patches of mature fat tissue along with fibrous tissue. It also shows inflated and inflamed blood vessels with nerve fibers, indicating fibrofatty tissues.

Discussion

Epibulbar dermoids are birth defects that are often found early in life, but they don't usually stay or get worse as a person grows older [11, 12].These growths make up a small number of eye surface tumors (<1%).Under the microscope, dermoids are made up of layers of skin-like cells and structures similar to those found in hair and sweat glands, which means they are classified as choristomas. In our case, the patient came in as an adult, which is unusual. This might be because the growth developed slowly and didn't cause any problems during earlier years. The main reasons the patient sought help were the appearance of the growth and a constant feeling of something foreign body in the eye. It's important to tell the difference between dermoids and other types of eye lesions, like dermolipomas, because the way they are treated can be different. Dermolipomas, for example, are made of fat and may spread into the eye socket, making removal more difficult and riskier. Imaging tests such as CT and MRI help to understand how far the growth has spread, whether it affects the eye socket, and guide the planning of surgery. In our case, imaging showed that the growth was on the surface of the eye, which allowed for a complete removal without harming deeper structures. A biopsy is the best way to confirm the diagnosis, as it shows cells that don't belong in that area. At the time of the operation, our report was still waiting for the biopsy results, but the clinical and imaging findings strongly suggested an epibulbar dermoid. The main treatment is surgery, and it's recommended when the growth causes symptoms, looks bad, or affects eye function. If a dermoid affects the edge of the cornea, a type of cornea transplant might be needed. Our case showed that simply removing a dermoid that's only on the conjunctivacan lead to good results with few problems. The outlook for epibulbardermoids is generally positive, with few cases of the growth coming back after a full removal. However, regular follow-ups are important to check for any return of the growth or other problems like scarring.

Conclusion

Epibulbar dermoids in adults are uncommon and need careful examination to tell them apart from other eye growths. This case highlights the importance of a detailed eye exam, imaging tests, and surgical removal in managing the condition effectively. Surgery not only gives a confirmed diagnosis through a biopsy but also helps restore both eye function and appearance. Working together, ophthalmologists, radiologists, and pathologists are crucial in making the right diagnosis and providing the best care for the patient.

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