

# Unusual Presentation of Lobular Capillary Hemangioma on the Eyelid (A Case Report)

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## ABSTRACT

**A lobular capillary hemangioma is a benign vascular tumor which most commonly occurs during childhood. We present the case of a 12-year-old male with acquired lobular capillary hemangioma of the left upper eyelid treated with surgical intervention. This patient developed no other lesions at the time of presentation. This case is being reported to call attention to the common occurrence in children as well as to discuss the different diagnostic and therapeutic modalities that can be used in the management of such cases. Although some cases resolve spontaneously, other cases may require intervention for cosmetic reasons or to prevent serious complications such as amblyopia and bleeding.**

**Keywords: Capillary hemangioma, Pyogenic granuloma, Eyelid tumor**

## INTRODUCTION

Deformities caused by vascular malformations affects many and its presentation may vary based on age, gender, trauma and other substantial causes. The eyelid may not be the most popular affected area for vascular malformations. However, once they occur, their ramifications can be dire. They may cause vision impairment or in more significant cases, profuse blood loss<sup>1</sup>.

A lobular capillary hemangioma presents itself most commonly in childhood. It is considered a "benign vascular tumor of the skin."<sup>2</sup> It is often the case where the tumor exhibits fast paced growth and a distinct brittle surface. Capillary hemangiomas can be seen as abnormal proliferation of normal tissue in a location. Its appearance may vary upon which stage of its evolution it reached. They develop from cellular entities to fully developed capillary configurations<sup>1</sup>.

Hemangiomas are described histologically as capillary, cavernous, mixed or sclerosing<sup>3</sup>. Capillary hemangioma itself has a nomenclature of its own such as infantile, juvenile, benign, hypertrophic, etc... It is important to note that it could also be a sequela of a metastatic extension<sup>4,5</sup>. This histologic type of hemangioma is more commonly congenital than it is acquired which made this case quite intriguing as there are only a handful number of cases acquired around this age group<sup>6</sup>.

The clinician must be vigilant in excluding other possibilities when presented with a case of capillary hemangioma. The differential diagnosis can include benign lesions such as cavernous hemangioma, lymphangioma, orbital cysts, vascular ectasias and bacillary angiomatosis. It may also include more malignant lesions such as Kaposi sarcoma, squamous cell carcinoma, neuroblastoma, angiosarcoma, rhabdomyosarcoma and metastatic carcinoma<sup>3-5</sup>.

The aim of this study is to publish a case of capillary hemangioma with an unusual presentation in a 12-year-old with review of literature.

## CASE PRESENTATION

A 12-year-old male patient presented to our ophthalmology clinic and exhibited a mass on the left upper eyelid (See figure 1 below). The patient stated that although the mass first appeared three months prior, it was noted by the patient that the size of the mass had gradually increased over time. The patient's history included a trauma injury caused by a fall on his head when he was younger. At the time, he was admitted to the hospital for a single night for observational purposes, no further management was required. Aside from that, the patient had no prior medical or surgical issues and denied taking any medications as well as history of recent trauma.

The patient underwent a visual acuity test unaided by glasses. The right eye recorded a 20 / 25. While the left eye, which has been affected by the mass, recorded 20 / 20. Upon closer examination, the mass measured roughly 3mm x 3mm x 3mm. Although it was not inflamed, it exhibited a distinctly red color and was firm to the touch. The anterior segment of the eye and general orbital examination proved to be normal. A dilated-pupil fundus examination was normal and no hemangiomas were noted. No other lesions were found in other parts of the body. Apart from the ophthalmic evaluation, a complete blood count was obtained prior to the surgery as part of the preoperative routine investigations and all the lab values were within normal limits and insignificant.

The provisional clinical diagnosis was a single capillary hemangioma based upon its presentation. It was decided that an excisional biopsy would be required to determine the nature of the mass and to rule out other benign or malignant lesions. The patient underwent a surgical excision of the mass under general anesthesia the following month and the biopsy was obtained in the same setting and sent for histopathology examination. The wound was closed using two sutures of 8-0 Vicryl. Hemostasis was maintained throughout the surgery. The macroscopic examination displayed a single white tissue measuring 0.5cm x 0.3cm, while the microscopic examination revealed a lobular proliferating capillary-sized blood vessel which was covered by normal skin.

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Excision was complete and no malignancy was detected. The findings were consistent with lobular capillary hemangioma; thus the provisional diagnosis was accurate.

The patient was evaluated postoperatively the following day. He was afebrile and pain-free. The wound was clean and there were no signs of leak, infection, redness or swelling around the sutures. He was prescribed a combination of tobramycin and dexamethasone ophthalmic ointment twice daily for three weeks. He was followed up again post-excision in three weeks; where the wound had healed and both sutures were removed safely with excellent cosmetic result. On further evaluation of the patient, no recurrence was noted in the eyelids or other parts of the body and there were no other associated complaints.



Figure 1A shows the capillary hemangioma on the left upper eyelid



Figure 1B shows the capillary hemangioma from a lateral view

## DISCUSSION

The diagnosis is often made clinically with the exclusion of differentials with the aid of histopathology. However, imaging may be necessary in the diagnosis of large tumors to note its vascularity and extension in the orbit<sup>6</sup>. Whereas some suspicious cases may yield the aid of more advanced radiographic imaging such as computed tomography (CT) or

magnetic resonance imaging (MRI) to rule out other causes. Another interesting supporting investigation was color Doppler imaging (CDI). This form of ultrasound, compared to the former imaging modalities, is safer, faster, noninvasive, inexpensive, easily accessible and better-tolerated by both children and adults, but it is especially beneficial in the primary diagnosis of pediatric orbital capillary hemangioma<sup>7</sup>. The pulse shifts and blood flow component in this technique is crucial in differentiating orbital capillary hemangiomas from other orbital tumors<sup>8</sup>.

Most effective treatment till date would be surgical excision<sup>2</sup> especially in patients who fail to respond to alternative management<sup>9</sup>; which may include beta blockers, radiotherapy, diathermy<sup>10</sup>, oral steroids, and intralesional bleomycin or corticosteroid injections<sup>8</sup>. A commonly discussed treatment modality was the use of beta blockers; namely propranolol, due to its vasoconstrictive role<sup>11</sup>. In infantile capillary hemangioma, oral propranolol<sup>12</sup> and topical timolol maleate proved to be effective<sup>13</sup>. Some studies suggested that intralesional propranolol showed a more significant response than oral propranolol<sup>14</sup>. Another treatment that exhibited satisfactory results was intralesional bleomycin injections (IBI)<sup>15</sup>. This proved to be effective in different cases which were similar in the sense that other treatments failed or perhaps some interventions were deemed high-risk outweighing the benefit<sup>16</sup>. Conservative management is usually preferred by both the patient and the physician, however, the fact remains that some cases only respond to surgical interventions, and even atypical presentations have been dealt with via surgical excision in previous cases<sup>17,18</sup>.

One of the most common complications in orbital lesions is acquired unioocular astigmatism leading to amblyopia which can either be discovered at the time of presentation or could develop with further enlargement of the lesion<sup>19</sup>. Therefore, it is of utmost importance to diagnose the refractive changes early to improve the visual outcomes<sup>20,21</sup>.

## CONCLUSION

Lobular capillary hemangiomas commonly present during childhood and are the most common benign orbital tumors in that age group. Thus this condition must be included in the differential diagnosis of lesions in this area. Diagnosis is often made clinically, however, radiographic imaging techniques may support the physician in confirmation. Though in most cases the management remains conservative as it may resolve spontaneously, a number of cases have been managed surgically for cosmetic reasons and to prevent further complications, especially those which obstruct the visual axis. Surgical interventions may also be opted for earlier treatment which leads to the correction of induced refractive errors which in turn improve visual outcomes. In some patients where surgical excision was contraindicated, oral medications or intralesional injections such as beta blockers, corticosteroids or cytotoxic chemotherapeutic agents proved to be useful. Therefore, each patient must be managed according to their individual presentations and conditions in order to effectively treat a capillary hemangioma with minimal complications.

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**Human Ethics:** Consent was acquired from all the participants in this study. Ethical approval was obtained from the research committee in

the Bahrain Defence Force Royal Medical Services. Written consent was obtained from the patient's parent as the patient was a minor and verbal assent was obtained from the patient regarding the permission to use photos anonymously with the case report.

**Potential Conflict of Interest:** None

**Competing Interest:** None

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