Management of Active Bleeding from Iris Microhaemangiomatosis

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Abstract

Iris Microhaemangiomas (IMH), vascular tufts usually found at the pupillary margin of the iris, is a rare occurrence. This case report describes a 65-year-old female who presented to our out-patient department with sudden blurring of vision in the left eye with no history of ocular trauma. The examination of the left eye showed iris vascular tufts, which were actively bleeding. Compression gonioscopy with cycloplegia was done to arrest bleeding. If left untreated, it could have caused bleeding into the anterior chamber possibly resulting in raised Intraocular Pressure (IOP). Owing to the rarity of this condition; there is no protocol in the management of IMH. The purpose of this case report is to analyze previous reports and describe the management of active bleeding from iris vascular tuft.

Keywords: Microhaemangiomatosis; Vascular tufts; Recurrent hyphaema; Compression gonioscopy

Introduction

Iris Microhemangiomas (IMH) are vascular tufts usually found at the pupillary margin, occasionally situated in the anterior stroma. IMH consist of tightly coiled blood vessels with capillary-like walls, and have an overall size of 15–150 microns [1]. Amasio et al. [2] described them as abnormal blood vessels that destroyed and replaced iris stroma and were composed of fissures paved with endothelial cells. Both Ashton and Cashell described them as thin walled vessels with some connective tissue [3,4]. These lesions are single or multiple, usually bilateral [5]. IMH is an unusual, benign vascular abnormality that can cause spontaneous and recurrent hyphaema with transient visual loss and elevated intraocular pressure. Most patients with IMH have no systemic disease. Previous reports have attributed vascular tufts at the pupillary margin of the iris to diabetes, myotonic dystrophy, Sturge-Weber syndrome, or in association with hemangioma of the orbit or eyelid [6]. Iris Fluorescein Angiography (IFA) has been used to investigate these lesions and help distinguish them from vascular malignant melanomas [2]. The natural course of this pathologic condition is benign, lesions rarely bleed and recurrent hemorrhages are unusual [7]. Our case report is aimed at demonstrating the management of active bleeding of iris vascular tuft.

Case Report

A 65 year old female noted sudden blurring of vision in her left eye for 2–3 hours. The patient was not diabetic or hypertensive, and did not have a history of ocular trauma. She was diagnosed to have optic neuritis in right eye six months back; an MRI of the brain was normal. Best Corrected Visual Acuity (BCVA) in the Right Eye (RE) was 20/80, N10 and Left Eye (LE) was 20/120, N12, with Intraocular Pressure (IOP) being 16 and 18 mm of Hg in RE and LE respectively. Slit lamp biomicroscopic anterior segment examination of the RE revealed normal optic nerve head, no disc edema, no cataract and no cherry red spot. Fundus examination of RE showed normal retina and macula. On fundus examination, LE showed blood tinged aqueous with streak of active bleeding at 1 O'clock position from an iris vascular tuft at the pupillary margin (Figure 1). Iris examination did not show evidence of rubeosis and gonioscopy did not reveal any neovascularization of angles. Fundus examination of LE was unremarkable. Compression gonioscopy was done to stop active bleeding and combination of Tropicamide- 0.8% w/v & Phenylephrine hydrochloride 5% w/v eye drops was instilled to dilate the pupil with minimal cycloplegia and vasoconstrict the iris vessels or decongest the iris for fundus evaluation. After compression gonioscopy, there was cessation of bleeding from the iris tuft (Figure 2).

The patient was started on topical steroids & Homatropine eye drops. At follow up the next day, BCVA in LE showed improvement to 20/20, N6. Slit lamp examination of anterior segment revealed normal anterior chamber, normal irides and fundus examination was normal.

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optically clear anterior chamber with iris vascular tuft (Figure 3). On follow up after six months, there was no further bleeding from the iris vascular tuft.

**Discussion**

IMH are convoluted, capillary-like fine vascular loops with thin, delicate, walls which easily break and bleed. They are known as iris vascular tufts, capillary hemangioma of the iris or Cobbs tufts. They usually occur in the elderly patients in the fifth decade or later [8].

Patients remain asymptomatic unless they experience sudden blurring of vision due to hyphema. Iris vascular tufts or microhemangiomas are an infrequent finding in ophthalmic evaluation. IMH should be suspected in all patients presenting with spontaneous hyphema. In mild cases the blood in the anterior chamber clears within hours and visual acuity returns to normal. In some cases in which the hyphema has completely cleared, the only positive finding can be raised IOP. The gonioscopic and fundus examination is normal. However both Akram et al. and Winnick et al. [6] reported two cases of iris vascular tufts associated with ipsilateral optic disc hyperemia, nerve fiber layer hemorrhages and venous congestion. Iris Fluorescein Angiography (IFA) is the investigation of choice for diagnosing IMH.

In differential diagnosis, iris melanoma is the most important. Serial examination with photograph and IFA helps in differentiating the condition.

Some patients only develop a self-limiting single episode of hyphema and therefore laser photocoagulation or surgical excision of the iris vascular tufts should be reserved for the cases complicated with recurrent hyphema [9]. All patients who require treatment should undergo a pretreatment IFA to assess the true extent of the vascular anomalies. Laser settings should be titrated to therapeutic effect during the initial treatment sessions. Different reports recommend different laser settings with laser spot size range from 50 to 250 micron, and the duration of a single laser burn range from 0.05 to 0.2 S. The laser energy and the number of burns used depend on the number and size of the lesion and pigmentation of iris tissue. Permanent obliteration may require several treatment sessions. Laser treatment has been used for small, isolated or multiple scattered lesions, and therapeutic effect was obtained with 200–240 MW of power with a total energy of 0.2–1 J [10]. The relative safety of argon laser therapy in anterior chamber has been described previously [11]. In some patients, several laser photocoagulation sessions may be needed and recurrent iris vascular tufts may require more aggressive treatment. IFA is useful in identifying the true extent of the disease and helps to improve the precision of the laser treatment. Surgical excision (iridectomy) should only be considered in patients who fail to respond to repeated laser treatment [12] and in cases where histological diagnosis is critical to rule out malignant lesion.

Owing to its rarity, there is no good scientific evidence to support the management of IMH. The current study attempts to describe a possible management option for active bleeding from IMH. In this case, there was cessation of bleeding from the iris vascular tuft after compression gonioscopy in combination with cyclopedia.

**References**