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Case Report

# Plateau Iris Syndrome: Diagnostic Value of Ultrasound Biomicroscopy (UBM)—A Case Report

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**Abstract:** We present the case of a 32-year-old man with a family history of open-angle glaucoma, consulting for chronic ocular hypertension with a narrow angle [1]. A peripheral iridotomy was performed, but one year later ocular hypertension persisted despite this treatment [2]. Plateau iris was suspected and confirmed by UBM, which showed a narrow iridocorneal angle closing dynamically with partial effacement of the ciliary sulcus [3]. Given intraocular pressure not controlled under triple therapy, argon laser iridoplasty was selected.

**Keywords:** Plateau Iris, UBM, Argon Laser Iridoplasty, Angle-Closure Glaucoma.

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## INTRODUCTION

Plateau iris syndrome is a rare condition that clinically presents as acute or chronic angle-closure glaucoma, but whose pathophysiological mechanism differs from that of classic pupillary block [1]. Its clinical diagnosis usually remains suspected in the absence of additional imaging [2]. Ultrasound biomicroscopy (UBM) has revolutionized the management of this entity by allowing precise visualization of ciliary structures and the iris root [3]. We report the case of a patient with "plateau iris-like" syndrome highlighting the diagnostic value of UBM [4].

## CASE REPORT

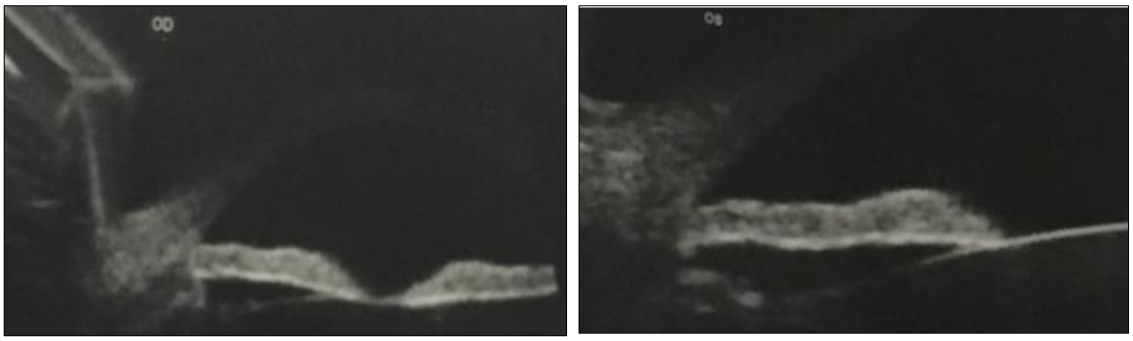
A 32-year-old male patient with no notable medical history and a family history of open-angle glaucoma. At his first consultation, he had ocular hypertension of 28 mmHg in the right eye and 20 mmHg in the left eye. Anterior chamber depth was normal centrally.

Gonioscopy showed a narrow grade 2 iridocorneal angle in the right eye, sectorially in the temporal and nasal areas, with areas of iris apposition. On the left, comparable but less extensive findings were noted. Fundus examination was normal, with optic disc cupping and a C/D ratio recorded as 0.3. The 24-2 white automated visual field was normal.

Given this chronic ocular hypertension with narrow angle, a peripheral iridotomy was performed. One year later, the patient again had ocular hypertension at 26 mmHg in the right eye despite patency of the peripheral iridotomy.

Plateau iris syndrome was then suspected. UBM was performed and confirmed the diagnosis: it showed a narrow iridocorneal angle at rest, closing dynamically (in darkness), with partial effacement of the ciliary sulcus suggesting plateau iris (Figs 1 and 2). The 24-2 white and yellow visual fields showed no focal defect. However, intraocular pressure was not controlled despite ocular hypotensive triple therapy. Under these conditions, argon laser iridoplasty was indicated.

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**UBM of the right eye: shows a narrow iridocorneal angle in a static state, which closes under dynamic conditions (in darkness), with partial effacement of the ciliary sulcus—suggestive of plateau iris**

## DISCUSSION

Plateau iris syndrome occurs more frequently in young, hyperopic, female subjects, although our patient is a man with unspecified refraction and a history of open-angle glaucoma [1]. Although the overall incidence of plateau iris syndromes is low, it is the leading cause of angle closure in subjects under 50 years of age [1]. The syndrome is characterized by acute or chronic closure of the iridocorneal angle secondary to abnormalities in the shape and position of the ciliary body and iris root [2]. An abnormally large and very anteriorly positioned ciliary body mechanically brings the iris periphery closer to the trabeculum [3].

During pupillary dilation, or sometimes even spontaneously, the iris root thickens and forms the equivalent of a ridge that fills the very narrow angular recess and comes to appose the trabeculum [3]. In pure plateau iris syndrome, this mechanism alone leads to closure of the iridocorneal angle without participation of a pupillary block mechanism [2]. Therefore, iridotomy or iridectomy will not modify the position of the iris and will not allow reopening of the iridocorneal angle, as was observed in our patient [4].

Treatment is based on argon laser iridoplasty at the iris root [4]. It retracts the iris periphery using the thermal effect of the laser in order to widen the iridocorneal angle [5]. UBM is now essential for establishing a definitive diagnosis by demonstrating the anterior position of the ciliary body and effacement of the ciliary sulcus [3].

## CONCLUSION

Plateau iris syndrome remains a rare condition, although its prevalence has increased over the past ten years because of the advent of high-frequency ultrasound, which allows a definitive diagnosis [3]. Failure of peripheral iridotomy in the context of narrow-angle ocular hypertension should suggest this diagnosis and lead to UBM [2]. Argon laser iridoplasty is the treatment of choice for reopening the iridocorneal angle [4].

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