

Chapter 57

Laser Peripheral Iridoplasty



Shakeel Shareef

Indications

Argon laser peripheral iridoplasty is indicated in patients with appositional angle closure that persists despite a patent iridotomy (Fig. 57.1a, b) due to mechanisms other than relative pupillary block [1]. It can also be used prior to laser peripheral iridotomy (LPI) in the setting of thick irides [2] and increased risk of bleeding due to use of blood thinners [2] or to widen the angle for improved viewing before performing trabeculoplasty [1, 3] (Table 57.1).

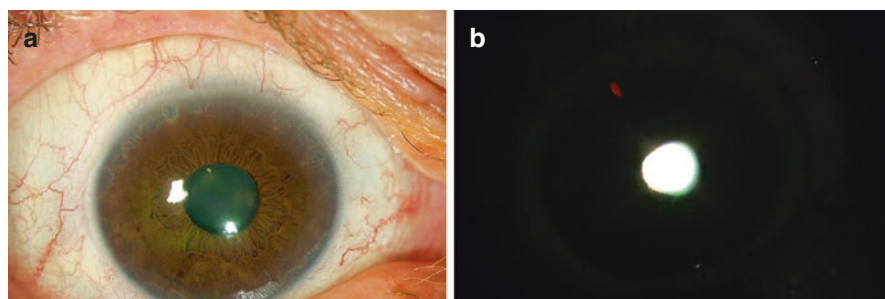


Fig. 57.1 Slit lamp photomicrograph showing an eye treated with ALPI. Note the presence of multiple atrophic laser marks in the far iris periphery (a). The patient had plateau iris syndrome with persistence of appositional angle closure despite the presence of a patent LPI noted on retroillumination (b) – iridoplasty and LPI (Taylor Pannell, CRA, OCT)

S. Shareef (✉)

Department of Ophthalmology, University Hospitals Eye Institute, Case Western Reserve School of Medicine, Cleveland, OH, USA
e-mail: Shakeel.Shareef@UHhospitals.edu

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Table 57.1 Indications for Argon laser iridoplasty

Condition	Comment
Plateau iris syndrome	In setting of patent iridotomy
Pretreatment	Improve angle viewing during trabeculoplasty
	With thick irides to facilitate laser iridotomy
	To reduce risk of bleeding during laser iridotomy
Lens-induced angle closure	In setting of patent iridotomy
Acute angle closure	To break attack when iridotomy is not possible ^a

^aAfter the intraocular pressure is normalized and the cornea clears, laser peripheral iridotomy is warranted as ALPI does not eliminate relative pupillary block

Essential Steps

1. Pre-laser treatment with topical anesthetic, IOP lowering, and pupil constricting drops
2. Patient positioning at slit lamp coupled to Argon laser
3. Appropriate Argon laser settings of low-energy, long-duration, and large spot size
4. Delivery of energy to far peripheral iris with or without a Goldmann 3-mirror laser contact lens
5. Observation of visible shrinkage of iris stroma at site of application
6. Application of four to six laser burns per quadrant
7. Post-laser instillation of IOP lowering medication
8. IOP check 30–40 min post-laser to check for IOP spike

Complications

1. Post-laser inflammation
2. Acute IOP elevation
3. Minor discomfort during application of burns
4. Corneal endothelial burns [1]
5. Ectopic pupil [2]

Template Operative Dictation

Preoperative diagnosis: Angle closure (*OD/OS*)

Procedure: Argon laser peripheral iridoplasty (*OD/OS*)

Postoperative diagnosis: *Same*

Indication: This ____-year-old (*male/female*) was diagnosed with appositional angle closure on gonioscopy [4] despite the presence of a patent laser iridotomy.

Description of the procedure: After discussing risks, benefits, alternatives, and obtaining consent, the (*right/left*) eye was marked with a marking pen in the examination room. After placing a drop of anesthetic, one drop of ___% pilocarpine was instilled to constrict the pupil, along with one drop of apraclonidine to lower the IOP pre-laser. Approximately 15 min later, the patient was transferred to the Argon laser room suite and placed at the slit lamp. Initial laser settings of 200 μm spot size, 0.5 s duration, and 300 mW power were set using the green wavelength.

[Choose one]:

If Goldmann 3-mirror laser contact lens was used – A drop of anesthetic was applied, and the lower lid was pulled and held down. The Goldmann 3-mirror contact lens filled with a coupling gel was gently placed on the eye. The laser beam was directed into the far periphery of the iris through the lens.

If performed without a contact lens – The laser beam was aimed in the far iris periphery.

Approximately *four to six* spots were applied in the far periphery per quadrant treating the entire iris circumference. Contraction of the iris was observed, and the power was adjusted to achieve this endpoint.

One drop of apraclonidine was instilled at the end of the procedure, and IOP was checked 40 min post-laser to detect any spikes. The patient was advised to use a 1% prednisolone acetate one drop *four* times a day for 5 days.

Additional Resource

https://www.youtube.com/watch?v=gC6dfYQ_hxY.

References

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