

Intraocular Pressure Spike Following Selective Laser Trabeculoplasty in a Case of Pigment Dispersion Syndrome

Selective laser trabeculoplasty (SLT) is a relatively new treatment modality in the treatment of glaucoma but various studies have shown it to be as efficacious as Xalatan® in its management.^{1,5} The procedure utilises a Q-switched 532 nm frequency doubled NdYag laser with a spot size of 400 microns and a pulse duration of around 3-4 nanoseconds. Energies from 0.6-1.4 mJ per shot are recommended and the entire 360 degrees of angle (90-100 laser spots) can be treated. Since SLT selectively targets pigmented trabecular meshwork cells without causing collateral damage to adjacent architectural structures, it is repeatable and hence an obvious advantage over SLT. However, caution needs to be exercised in eyes with heavily pigmented angles where a lower energy and fewer laser spots (45-50) may be desirable.

Case report

A 28-year-old lady, a known case of pigment dispersion syndrome (PDS) with Krukenburg Spindles, was referred by an optician with complaints of occasional headache. On examination both eyes were white and quiet; intraocular pressure (IOP) was 24mm Hg in the right eye and 32mm Hg in the left. The visual fields were within normal limits. Gonioscopy revealed open angles with heavy pigmentation in both eyes. The patient was started on latanoprost 0.005% (Xalatan) nocte to both eyes. Her IOP was well controlled on Xalatan for five years but then an increase in IOP was noted and her treatment was switched over to Xalacom®. However, this failed to control the IOP.

Bilateral SLT was offered to control IOP. Her pre-SLT IOP were 26mm Hg in the right eye and 27mm Hg in the left eye. Three hundred and sixty degrees SLT was performed in both eyes. Ninety-six shots were delivered with a pulse energy of 0.4mJ. As per protocol she was prescribed ketorolac eye drops four times a day to both eyes for one week.

On post-SLT day one visit the patient presented with blurred vision, severe corneal oedema and flare in the anterior chamber. The IOP had shot up to 34mm Hg in both eyes and visual acuity dropped from 6/6 in both eyes to 6/36 (6/12 with pinhole) in the right eye and 6/24 (6/12 with pinhole) in the left. The patient was treated for IOP spike and was started on Maxitrol®, pilocarpine, iopidine eye drops and diamox tablets to reduce the pressures. The corneal oede-

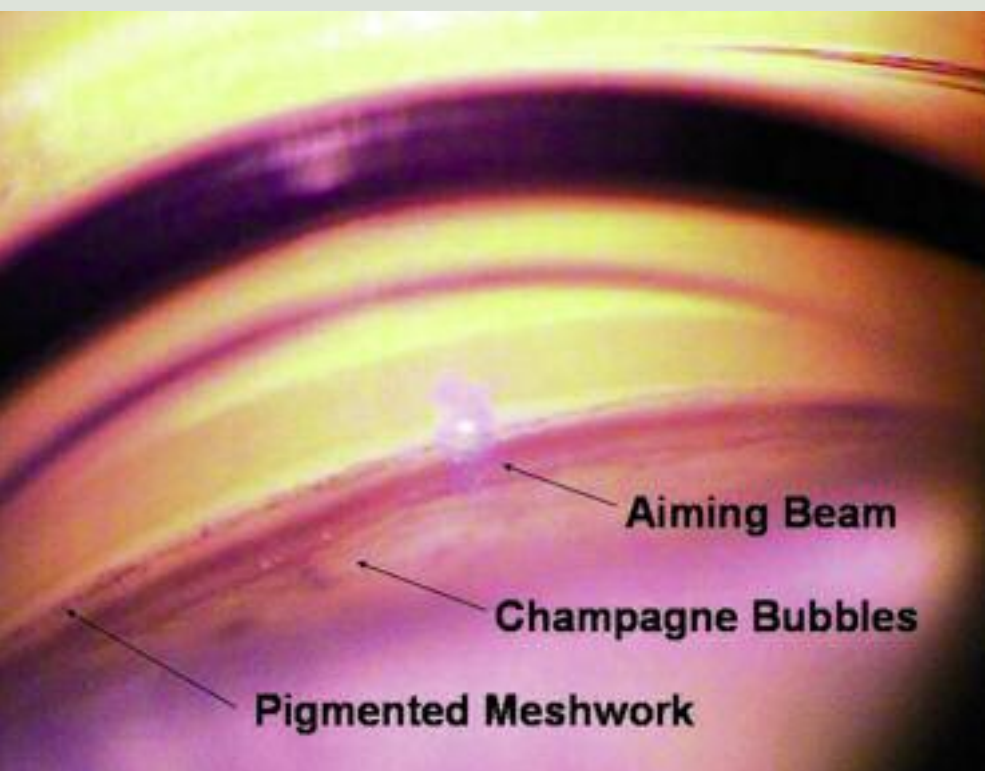
ma settled and bilateral YAG PI was performed, to relieve posterior bowing of mid-peripheral iris, thus preventing reverse pupillary block. Within two weeks the IOP came down to 26mm Hg in the right eye and 23mm Hg in the left eye. The visual acuity returned to 6/6 in both eyes. All treatment was stopped. IOP further came down to 18mm Hg (both eyes) two months later and has remained stable since. The visual fields too have remained stable.

Comment

Although phenomenon of post-SLT IOP spike in heavily pigmented angles has been observed by other clinicians, the exact cause for this is not known. Following this experience we now apply fewer laser applications in patients with heavily pigmented angles i.e. 90-180 degrees and avoid 360 degree treatment. Since then we have not experienced any untoward rise in IOP.

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Figure 1. Showing selective laser trabeculoplasty.

If you've had an interesting case recently we'd like to hear from you. For further information on submitting a photoessay to eyenews contact Katie Labak, email: katie@pinpoint-scotland.com