

## Scleral Burns Following Cyclodiode Treatment

Francesco Stringa<sup>1\*</sup>, Ricardo De Sousa Peixoto<sup>2</sup>, Richard Stead<sup>3</sup> and Anthony J King<sup>3</sup>

<sup>1</sup>University Hospital Southampton NHS Foundation Trust, Southampton, UK

<sup>2</sup>Derby Hospitals NHS Foundation Trust, Derby, UK

<sup>3</sup>Nottingham University Hospitals NHS Trust, Nottingham, UK

\*Corresponding Author: Francesco Stringa, University Hospital Southampton NHS Foundation Trust, Southampton, UK.

Received: May 24, 2022

Published: May 27, 2022

© All rights are reserved by Francesco Stringa, et al.

Trans-scleral cyclophotocoagulation is a well-established procedure for the treatment of refractory high-tension glaucoma [1]. The 810 nm diode laser is delivered with a G-probe™ that can be tested with a grey scale test prior to treatment [2].

We document a case of scleral burns following trans-scleral cyclodiode laser, performed after testing the G-probe with a grey scale test.

An 85-year-old male with neovascular glaucoma and ocular pressure of 52 mmHg in a painful eye with poor visual prognosis (VA = 1.3 LogMar) underwent urgent cyclodiode treatment. Prior to the treatment we tested the functioning of the laser probe by shooting the laser onto a darkly pigmented area of paper. Blanching of the pigment indicates the probe is functioning. The laser power was 2000 mW and the duration 2000 msec. After the first two treatments to the eye, a scleral burn was noted at the site of contact of the probe (Figure 1A). Fluorescein was used to exclude perforation. The rest of the treatment was carried out with a new probe, which was not tested on the pigmented paper. One week follow up showed good healing (Figure 1B).

Side effects following cyclodestructive procedures have been described, including hypotony, inflammation, hyphema, scleral thinning, perforation and phthisis [3,4].

Examination of the end of the first probe after the burns showed pigment that was not present on the second probe (Figure

**Figure 1:** A) Scleral burn visible immediately after the laser. B) Burn's healing after 1 week from laser.

2A). There were no other visible defects on either probes that could have justified the scleral damage. The print on the paper used for testing showed a mark of the same size of the probe's end (Figure 2B).

**Figure 2:** A) on the left, laser probe's tip after testing on a darkly pigmented paper. On the right, an untested probe's tip. B) Pigmented paper used for testing with circular mark of the same diameter of the probe's tip.

In this case we believe some ink pigment from the paper was transferred to the tip while testing it. This was likely a result of testing it too close to the paper. The ink would then have reached high temperature during the treatment, causing the carbonised debris to burn the sclera, as a matter of fact, It has been hypothesized that carbonised tissue on the G-probe can reach 300°C [5].

### Learning Points

- We advise caution when testing the G-probe too close to the test target to avoid contamination of the tip.
- Scleral burns from cyclodiode can heal with no significant sequelae within a week from the laser treatment.

### Bibliography

1. Uppal S, *et al.* "Short-term effect of diode laser cyclophotocoagulation on intraocular pressure: a prospective study". *Clinical and Experimental Ophthalmology* 43.9 (2015): 796-802.
2. P Hossain, *et al.* "Assessing the 'cyclodiode G-probe' using a grey scale test: reproducibility and differences between probes". *Eye* 17 (2003): 167-176.
3. Rotchford AP, *et al.* "Transscleral diode laser cycloablation in patients with good vision". *British Journal of Ophthalmology* 94.9 (2010): 1180-1183.
4. Bloom PA, *et al.* "A comparison between tube surgery, ND:YAG laser and diode laser cyclophotocoagulation in the management of refractory glaucoma". *Biomed Research International* 2013 (2013): 371951.
5. Sabri K and Vernon SA. "Scleral perforation following trans-scleral cyclodiode". *British Journal of Ophthalmology* 83 (1999): 502-503.