SAFETY AND EFFICACY OF PNEUMATIC TRABECULOPLASTY IN AFRICAN POPULATION

Prigione G., MD, Hesse A., MD, Iester M., MD, Rolando M., MD, Calabria G., MD
Clinica Oculistica, DINOG, University of Genoa, Azienda Ospedaliera Universitaria “San Martino”, Genoa, Italy.

ABSTRACT

Purpose: To evaluate the safety and efficacy of pneumatic trabeculoplasty (PNT) in African patients with primary open angle glaucoma (POAG).

Methods: This was a prospective study performed on 42 POAG African patients, between the ages of 18 and 80 years, who were treated with PNT. The patients were classified as having abnormal OHT when:

- Typical abnormal optic nerve head (ONH);
- Open angle at gonioscopy;
- Narrow IOP or NVA were used to classify patients.

The follow-up was performed on a monthly basis for 3 months. The IOP was evaluated with Goldmann applanation tonometry (Haag-Streit, Switzerland).

RESULTS

Mean post-treatment IOP was 25.71 ± 5.02 mmHg before PNT and 22.84 ± 5.51 mmHg after PNT. The IOP reduction was significant (p < 0.001).

CONCLUSIONS

PNT is safe and effective in lowering IOP in African patients with POAG. The procedure can be repeated once again for 60 seconds after the first treatment. In conclusion, this procedure could be useful in developing countries where there is a lack of medical therapy due to logistic and cultural reasons. Moreover, the lack of side-effects, except for transient conjunctival hyperemia and subconjunctival hemorrhages, makes PNT safe and easy to perform and could be carried out even by non-opthalmologist physicians.

PURPOSE

The purpose of this study was to determine the efficacy and the safety of pneumatic trabeculoplasty (PNT) alone to lower IOP in African patients with primary open angle glaucoma (POAG).

MATERIALS AND METHODS

- 82 eyes of 42 patients (age > 18 years) with elevated IOP associated with a diagnosis of POAG;
- Patients classified as having POAG when:
  - Typical abnormal optic nerve head (ONH);
  - Open angle at gonioscopy;
  - Narrow IOP or NVA were used to classify patients.
- IOP was evaluated with Goldmann applanation tonometry (Haag-Streit, Switzerland);
- Exclusion criteria: clinically significant corneal disorders; ongoing or previous history of intraocular inflammation; any intracocular surgery;
- PNT was performed on day 0 and 7.

RESULTS

Mean post-treatment IOP before PNT was 25.71 ± 5.02 mmHg and after PNT was 22.84 ± 5.51 mmHg. The IOP reduction was significant (p < 0.001).

DISCUSSION

PNT is a non-invasive method that has been reported to lower IOP in patients with POAG or OHT. The exact mechanism of the PNT lowering effect has not been elucidated but it is believed to act by improving aqueous outflow by stretching the trabecular meshwork, and/or by widening the uveoscleral pathways.

In this prospective study performed on 42 POAG African patients, Pneumatic Trabeculoplasty has shown a significant (p<0.001) IOP lowering short term effect. In conclusion, this procedure could be useful in developing countries where the compliance of medical therapy is low for logistic and cultural reasons. Moreover, the lack of side-effects, except for transient conjunctival hyperemia and subconjunctival hemorrhages, makes PNT safe and easy to perform and could be carried out even by non-opthalmologist physicians.