Introduction

Deep sclerectomy with Mitomycin C (MMC) is an effective procedure for lowering intraocular pressure (IOP) by creating a new outflow by surgically uncontrolled open angle glaucoma(1,2,3).

However, this procedure is technically difficult: adequate filtration may not be achieved if the thin trabecular membrane is not removed whereas too deep dissect may result in inadvertent perforation, a frequent complication mainly during the learning curve(4).

Aim

To evaluate the efficacy and the safety of a new surgical procedure, CO2 Laser Assisted Sclerectomy surgery (CLASS), for glaucoma surgical management.

Materials and methods

50 eyes of 50 patients with medically uncontrolled open angle glaucoma and pseudo-exfoliative glaucoma underwent CLASS with a CO2 laser system (OT-134-JOPtima, JOPtima Ltd., Ramat Gan, Israel) by one surgeon (BA) between February 2016 and March 2017.

All the operations were performed under peribulbar or general anesthesia.

Two 6/0 silk clear corneal traction sutures were placed at 3 and 9 o’clock to ensure proper exposure of the surgical site.

A 6 mm superior fornix-based incision was made and the Tenon capsule was dissected to expose the sclera. Two Mercocel sponges were placed at 10 o’clock to ensure proper exposure of the surgical site.

A rectangular limbal-based 5x5-mm superior scleral flap was dissected. The Schlemm canal until sufficient percolation was achieved.

Two 6/0 silk clear corneal traction sutures were placed at 3 and 9 o’clock and coagulation of bleeding vessels. Furthermore, the radiation emitted being absorbed by water during percolation, the deep trabecular meshwork is protected during the procedure. Inadvertent perforations become unlikely and the safety profile is enhanced.

Postoperatively patients were treated with Dexamethason-neomycin-polymyxin B ointment at bed time for 2 weeks ( Maxidrol, Alcon, Fort Worth, USA) and twice daily for 4 weeks.

The eye was patched with antibiotic and steroid ointments.

Conclusions:

CO2 Laser seems to be a new tool for glaucoma surgery. Further studies with longer follow up are needed.

References