Glaucawma is the second cause of blindness worldwide and is estimated to affect more than 409,000 Canadians.(I) Advanced glaucoma consists of an Optic nerve head with a Cup/Disc ratio > 0.9 and/or visual field defects within the central 10 degrees of fixation, and it demands a low target IOP.(II)

We performed a prospective, non-randomized, observational, single center study to describe the changes in Endothelial Cell Density (ECD) in patients with no previous corneal procedures.

Patients included in the study were the ones with a diagnosed advanced glaucoma with either intractable IOP, or topical medication intolerance that are not good candidates for incisional glaucoma surgery in whom the cornea was suitable to get endothelial images. ECD was measured by specular microscope in the center of the cornea using the Konan non-contact specular microscope before and after mpCPC. Secondary outcomes are visual acuity(VA) and IOP.

Results:
Seven eyes of 7 patients have received been recruited so far. Mean age of the participants was 63.1. Six patients were pseudophakic and one was phakic. Diagnosis was Primary open angle glaucoma (3), chronic angle closure glaucoma (2), Pseudoxefation glaucoma (1) and Secondary angle closure glaucoma (1).

At baseline, mean ECD was 1598, and 1610 and 1550 at week one and week four after the procedure respectively. Median ECD loss was 3.09% at week four.

To our knowledge, this study is the first one to assess change in ECD in patients with no previous corneal interventions. Our findings regarding change in VA and IOP are similar to those reported in the literature. Changes in ECD are also comparable to those previously reported and seem to be safe at this point but further investigation is needed.

References: