

Abstract 18

OCTA STUDY OF CHOROIDAL VASCULATURE IN OPEN ANGLE GLAUCOMA PATIENTS

Oral

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Purpose:

The aim of this prospective study was to examine and measure subfoveal choroidal thickness (SFCT) and coriocalillary vessel density (CCVD) using respectively EDI-OCT and OCTA in preperimetric and advanced glaucomatous eyes, in order to shed light on the vascular pathogenesis of disease glaucoma disease.

Methods:

In this prospective study, 19 eyes from 19 patients affected by preperimetric glaucoma (PPG) and 18 eyes from 18 patients affected by advanced glaucoma (AG) were studied from January 2022 to May 2022 at the University of Naples "Federico II". These patients had been compared with 20 eyes of 20 healthy subjects that represented the control group.

All subjects underwent a complete ophthalmological examination, including the best-corrected visual acuity (BCVA) evaluation, intraocular pressure (IOP) with Goldman applanation tonometry, biomicroscopy, gonioscopy, central corneal thickness, fundus examination, visual field (VF), Spectral Domain-Optical Coherence Tomography (SD-OCT) and OCT Angiography (OCTA).

Results:

A total of 19 eyes from 19 PPG patients, and 18 eyes from 18 AG patients, and 20 eyes from 20 healthy subjects were included in this observational study. Mean IOP did not differ among the study groups

The SFCT at EDI-OCT was greater in advanced glaucoma patients than PPG and controls groups . At OCTA examination, PPG patients exhibited a statistically significant decrease in the VD of CC with respect to controls in whole image, and AG showed a statistically significant decrease in the VD of CC with respect to PPG patients in whole image, ($p < 0.001$).

Conclusions:

These results showed that the reduction in number of vessels in choriocalillary would lead to a decrease in the rate of bloodflow that could cause an increase in the gradient of perfusion pressure in the still permeable vessels of choroidal layer. Therefore the CCVD significantly discriminate glaucoma patients from controls.