CORRELATION OF DISC AND CUP AREA BETWEEN PATIENTS AND THEIR OFFSPRINGS MEASURED WITH HEIDELBERG RETINA TOMOGRAPHY
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PURPOSE
To study the correlation between disc area (DA) and cup area (CA) measured by Heidelberg Retinal Tomography (HRT) in primary open angle glaucoma (POAG) patients and their first degree relatives.

METHODS
• Observational study with consecutive sampling
• 18 families
• Only one parent was suffering from POAG (following European Glaucoma Society Guidelines)
• Complete clinical eye examination
  - VA
  - Refraction
  - Slit-lamp examination
  - IOP
  - Indirect ophthalmoscopy
  - Ultrasonic pachymetry
  - HRT III
• Right eye
• Inclusion criteria
  - HRT images quality >40
  - Refractive errors<5D
  - Best corrected VA >0,4
• Pearson correlation coefficient (p<0,05)
• Student t test (p<0,05)

RESULTS
Epidemiologic caracteristics

Mean disc area and cup area

Mean central corneal thickness

Correlation between parents and offsprings in disc and cup area

Epidemiologic caracteristics

Mean disc area and cup area

Correlation between parents and offsprings in disc and cup area

CONCLUSIONS
- Ethnic variation and familial aggregation appear to suggest a genetic tendency of POAG.
- Previously it had been shown that the cup/disc ratio of first relatives of glaucoma patients does not show a different distribution from general population and cup/disc ratio is genetically determined.
- There are studies about optic disc heritability in twins but not between parents and their offsprings.
- HRT is an objective quantitative tool that may minimize the measurement errors and observer bias.
- Our study confirms other studies that found a relationship between the DA in the glaucoma patients and their descendants.

BIBLIOGRAPHY