AMD: DRUSENOID DEPOSITS « LIPID Type, » « L », « PROTEIN-CELLULAR Type, » « P »!

Characterization, Evolution, Structural Analysis with MULTIMODAL IMAGING and MORPHOLOGY – STRUCTURAL Software

METHODS

• PATIENTS
  - 178 eyes of 54 AMD patients, 31 Men, 43 Women with AMD Drusenoid Deposits
  - 2018/2019, 143 Men, 35 Women
  - «LIPID Type» (L): Soft Drusen, Drusenoid PED «L»
  - «PROTEIN-CELLULAR Type» (P): Subretinal drusenoid deposits (DD) Drusenoid PED «P»

• METHODS – FOLLOW-UP
  - MULTIMODAL OPHTHALMOLOGIC Exam
    - Best refraction ETDRS decimal scale (Visual Acuity (VA))
    - Complete ophtalmologic exam: Ocular Doppler, Visual fields, Pachymetry, Optical coherence tomography (OCT), Fluorescein angiography (FA), Indocyanine green angiography (ICG), Optical coherence tomography (OCT)
    - Cellular Type (C) deposited area between PED and RPE, PED thickness/functional evaluation in OCT

• MULTIMODAL IMAGING – OCT: 
  - 3D study: structural layers, lesions, in all axes, above and below the RPE, comparison of the retinal tissue, layers, lesions
  - Comparison of the layers, tissues, per se and in between and to all retina (keeping in mind morphology – thickness/functional evaluation and correlation is not complete)

RESULTS / AF / IR / OCT / FA / ICG
  - IR-corneal exam: AF=EP, structure, function and functionality
  - OCT-structural retinal, cellular layers analysis, map (OCTEn face) – FA, ICG = dynamic flow exploration
  - Data of all exams are COMPREHENSIVE

• RESULTS / M & S Software
  - Lesions evaluation
    - size, characteristics, number, topography, growth rate
  - Each element was studied, compared to Cut to Cut, side by side, and to the detail of the 3D-OCT platform layer, choriocapillaris structure and thickness
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• RESULTS / DRUSENOID PED « L »
  - Soft Drusen, Drusenoid PED « L »
  - white, grey, dome-shaped, homogeneous, translucent, optically empty, Fatty, as lipid drops, under the RPE
  - Low density, yellow, well defined / M-S Software same aspect / OCT, FA and ICG
  - Equal and the same in all cross-section
  - Abnormal Pigment Epithelium above, but layer quite preserved
  - Abnormal Photoreceptor on top RPE, but layer overall normal

• RESULTS / DRUSENOID PED « P »
  - Drusenoid PED, Pigment Epithelium (PED « P »)
  - Oil droplet, clear, homogeneous, irregular, mixed, heterogeneous PED below Pigment Epithelium and / or just above
  - Nuclear density well defined / M-S Software same aspect / OCT, FA and ICG
  - Different in all cross-sections
  - Abnormal Pigment Epithelium above, heavily unstructured layer interrupted, cells disappeared, irregular ICG facing evolution to abnormal Photoreceptor layer, Pigment Epithelium layer (granular, irregular, less thick, thinner and thinner to disappear)

• RESULTS / S Software
  - Software reliability, relevant, characterization / M-S Software
  - Neovascular Complications
  - Multimodal Imaging – OCT, - FA, ICG = dynamic flow exploration
  - Results: Drusenoid deposits «L», «P», Protein Cellular type

DISCUSSION / CONCLUSION

• COMMENTS / RESULTS
  - Multimodal Imaging, - OCT, M-S Software contribute to improve AMD drusenoid deposits «L», «P», Protein Cellular type
  - Study and knowledge and so AMD ethiopathogeny understanding