Restoration of Outer Retinal Layers After Aflibercept Therapy For Exudative AMD: Prognostic Value

Florence Coscas¹, ², Gabriel Coscas¹, ², Ali Dirani, Marco Lupidi², Mayer Srour¹, Oudy Semoun¹, Catherine Français², Eric H Souied¹, ².

Department of Ophthalmology, Creteil Eye Clinic University Hospital, Creteil¹; Centre Ophtalmologique de l’Odéon², Paris, France

INTRODUCTION

• The dissociation between CMT and BCVA
  • highlights the need for OCT parameters, which could
  • better indicate the functional success of therapy
  • Our attention has been directed to lesions of ELM and EZ

PURPOSE

• To evaluate the Outer Retinal Layers Changes:
  Disruption of the ELM and the EZ
  • Swelling of the EZ
  • Sub-retinal Hyper-reflective Exudation as sub-retinal
    “dirty gray” hyper-reflective lesion (SHE)
  • To correlate to the BCVA and to fluid re-absorption

METHODS

• Retrospective study of 50 eyes
  • affected by active « naive » exudative AMD
  • treated by intravitreal Aflibercept
  • 18 month follow up, with
  • BCVA (EDTRS), OCT, FA and ICGA;
  • The sub-foveal alterations of EZ and ELM
  • Were evaluated in the 2000 µm
  • Cross-Line EDI B-Scan (20° - 100 frames)
  • centered on the foveal depression

RESULTS

Morphological Results: Outer Layers Changes

• EZ disruption, ELM disruption, EZ Swelling and SHE
  • improved significantly at 18 months  (p=0.001)
  • EZ and ELM restoration are correlated  (p=0.035)
  • EZ Swelling decreased from 72% to 30%  (p=0.001)
  • SHE decreased :52% to 6% in 18 months (p=0.001)
• VA gain correlates with ELM restoration  (p=0.018)
  BCVA gain : + 5,8 letters (p=0.001)
  SFR, CME, PED, CM, PED diminished (p=0.001)

DISCUSSION AND CONCLUSION

The altered retinal outer layers can restore after anti-VGF treatment in wet AMD.

The initial state of the ELM is correlated to the final BCVA

The involvement of EZ is usually correlated to the ELM involvement but without evident correlation to final BCVA

The condition of the ELM probably represents the integrity of photoreceptor cell bodies while

The EZ may rather reflect the integrity of the Outer Segments.

Therefore, the initial state of ELM Appears as an interesting predictor for photoreceptor restoration and final BCVA