OCT in CSCR

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Conflict of Interest

The author has no conflicts of interest to declare that are relevant to the content of this presentation

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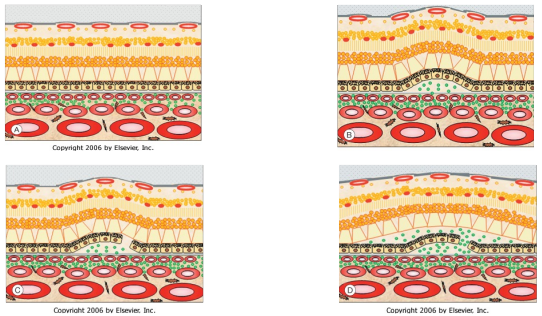
Pathomechanism



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OCT Findings in CSCR

- 1. Choroidal
- 2. Chorioretinal
- 3. Retinal

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1. Choroidal OCT Findings

- 1.1. Choroidal vessel layer thickness
- 1.2. Choroidal thickness
- 1.3. Loculation of fluid
- 1.4. Choroidal vascularity index
- 1.5. Focal choroidal excavation
- 1.6. Choroidal cavern

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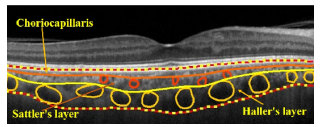
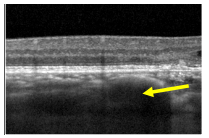
1.1. Choroidal Vessel Layer Thickness

- Large choroidal vessels comprise up to 70% of choroidal thickness



- Enlarged large choroidal vessels compress inner choroidal layers



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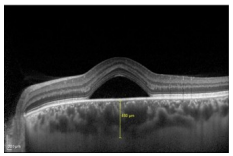
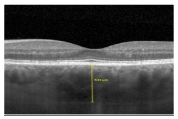
1.2. Choroidal Thickness

- Choroidal interstitial edema plays a major role in increasing subfoveal CT



- Subfoveal CT is increased in the affected eye and fellow eye



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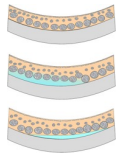
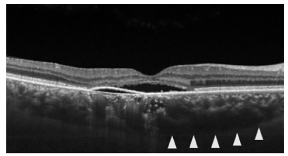
1.3. Loculation of fluid

- LOF is a common finding in CSCR



- The areas of LOF are hyporeflective, are larger topographically than the large choroidal vessels, have an angular inner border, and do not have a bounding vascular wall



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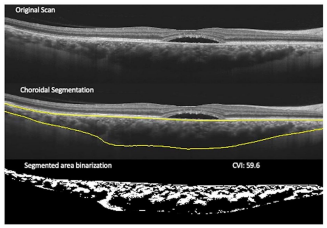
1.4. Choroidal Vascularity Index

- CVI is defined as the ratio of vascular area to the total choroidal area, presented as a percentage
- CVI is increased in eyes with CSCR compared to their fellow eyes
- Eyes with active CSCR have higher CVI compared to eyes with resolved CSCR



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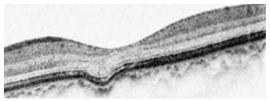
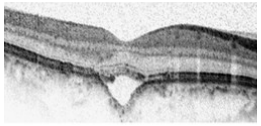
1.5. Focal Choroidal Excavation

- The conforming type of FCE: the outer retinal layers conform to retinal pigment epithelial alterations within the excavation



- The non-conforming type of FCE: there is separation between the outer retina and the retinal pigment epithelial alterations within the excavation



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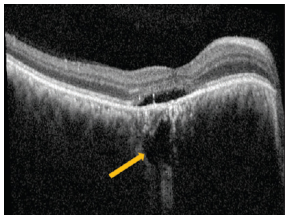
1.6. Choroidal Cavern

- CC appear as gaping angular hyporeflective cavities in areas devoid of choroidal vessels, often with punctate/linear hyperreflectivities internally
- CC may possibly arise from nonperfused ghost vessels and persistence of stromal pillars where the vessels were originally situated



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2. Chorioretinal OCT Findings

- 2.1. Retinal pigment epithelial detachment
- 2.2. Retinal pigment epithelium microrip
- 2.3. Retinal pigment epithelium aperture
- 2.4. Retinal pigment epithelium tear
- 2.5. Double-Layer sign
- 2.6. Choroidal neovascularization

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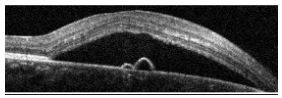
2.1. Retinal Pigment Epithelial Detachment

- PED is more frequently reported in chronic CSCR

- PED colocalizes with choroidal hyperpermeability areas



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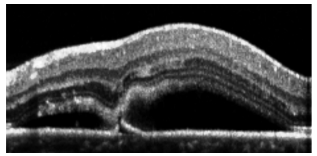
2.2. Retinal Pigment Epithelium Microrip

- RPE microrips occur up to 12% in the setting of CSCR
- RPE microrips show spontaneous closure in the natural course of CSCR



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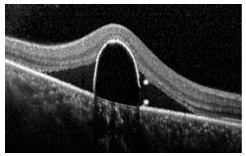
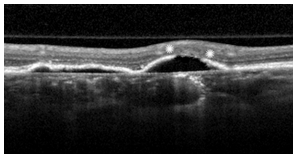
2.3. Retinal Pigment Epithelium Aperture

- RPE aperture can occur in patients with chronic CSCR in correspondence of avascular PED



- RPE aperture tend to increase in size over time



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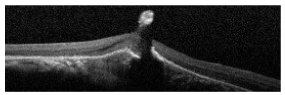
2.4. Retinal Pigment Epithelium Tear

- RPE tears are rare feature in the setting of CSCR
- RPE tears do not increase in size over time



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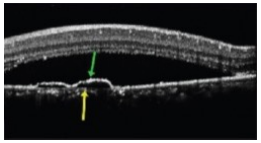
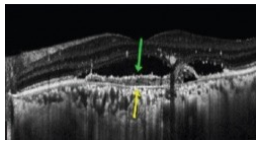
2.5. Double Layer-Sign

- DLS non-vascularized



- DLS vascularized



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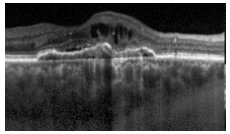
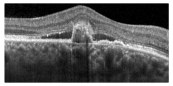
2.6. Choroidal Neovascularization

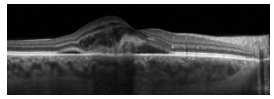
- Type 1 CNV



- Aneurysmal type 1 NV



- Type 2 CNV



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3. Retinal OCT Findings

- 3.1. Subretinal fluid
- 3.2. Photoreceptor outer segment elongation
- 3.3. Hyper-Reflective dots
- 3.4. Cystoid macular edema
- 3.5. Cystoid macular degeneration
- 3.6. Retinoschisis

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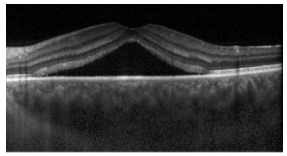
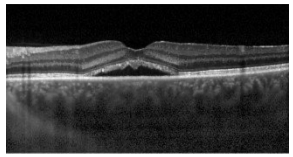
3.1. Subretinal Fluid

- In acute CSCR despite SRF the morphology of retinal layers remains unchanged





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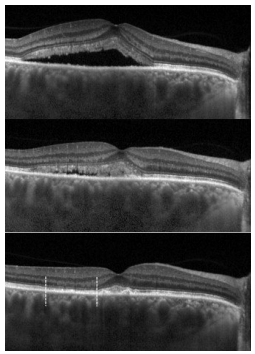
3.2. Photoreceptor Outer Segment Elongation

- PROS elongation is a frequent finding in the area of SRF
- Persistent PROS elongation may progress to permanent subretinal deposits
- Complete disappearance of OS as observed in chronic CSCR



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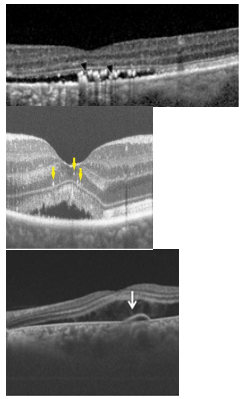
3.3. Hyper-Reflective Dots

- HRD subretinal
- HRD intraretinal
- HRD could be PROS shedding, activated microglia and macrophages, or concentrated fibrin or lipid compounds



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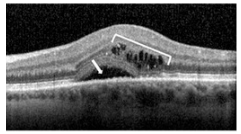
3.4. Cystoid Macular Edema

- CME is a complication of chronic CSCR and is accompanied by active angiographic leakage



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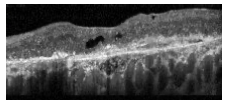
3.5. Cystoid Macular Degeneration

- CMD complicating chronic CSCR tend to occur where the retina adhered to atrophy of the RPE or subretinal fibrosis
- CMD is not accompanied by active angiographic leakage



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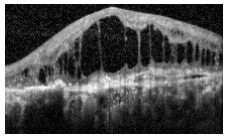
3.6. Retinoschisis

- Retinoschisis is a rare complication of chronic CSCR



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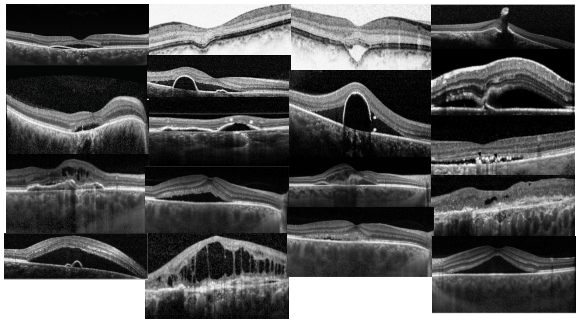
Thank you for your attention



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