



# OCT in CSCR

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## Conflict of Interest

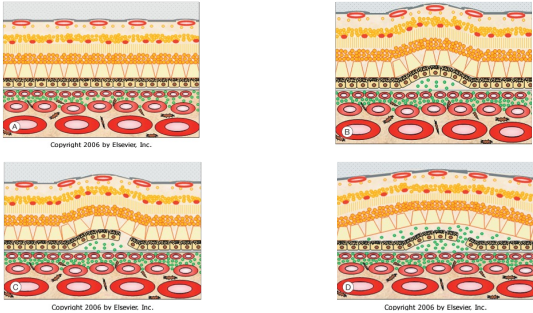
The author has no conflicts of interest to declare that are relevant to the content of this presentation



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## Pathomechanism




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## OCT Findings in CSCR

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



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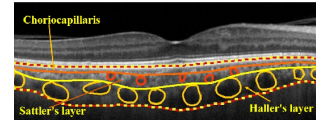
## 1. Choroidal OCT Findings

- 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

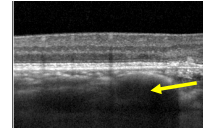
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## 1.1. Choroidal Vessel Layer Thickness

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



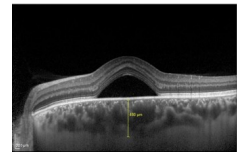
- Enlarged large choroidal vessels compress inner choroidal layers



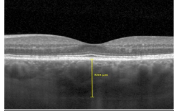
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## 1.2. Choroidal Thickness

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



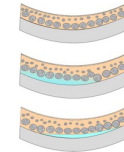
- Subfoveal CT is increased in the affected eye and fellow eye



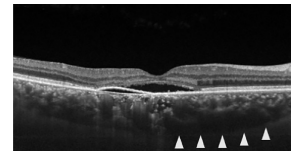
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## 1.3. Loculation of fluid

- LOF is a common finding in CSCR



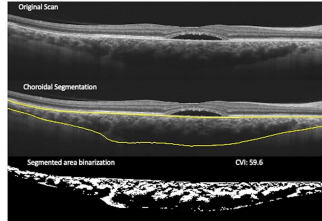
- The areas of LOF are hyporeflective, are larger topographically than the large choroidal vessels, have an angular inner border, and do not have a bounding vascular wall



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### 1.4. Choroidal Vascularity Index

- CVI is defined as the ratio of stromal area versus choroidal area in single-line scan or volume scans
- 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

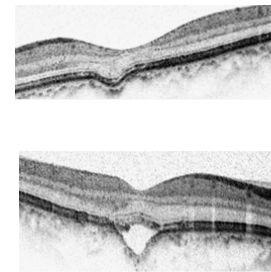


The image shows an OCT scan with three horizontal sections: 'Original Scan' at the top, 'Choroidal Segmentation' in the middle with a yellow line tracing the choroid, and 'Segmented area binarization' at the bottom. A text box on the right indicates 'CVI: 59.6'.

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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

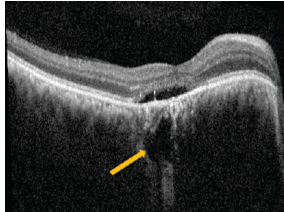


Two OCT scans are shown. The top scan illustrates the 'conforming type' where the outer retinal layers follow the contour of the RPE alteration. The bottom scan illustrates the 'non-conforming type' where there is a visible gap or separation between the outer retina and the RPE alteration.

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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



The image is an OCT scan showing a choroidal cavern, which appears as a dark, angular cavity. A yellow arrow points to the base of the cavern.

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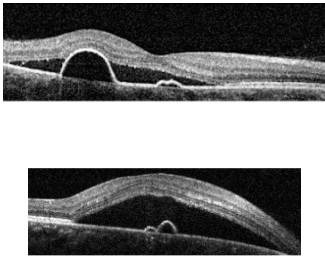
### 2. Chorioretinal OCT Findings

- 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

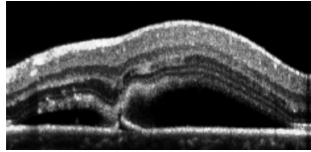
- PED is more frequently reported in chronic CSCR
- PED colocalizes with choroidal hyperpermeability areas



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### 2.2. Retinal Pigment Epithelium Microrip

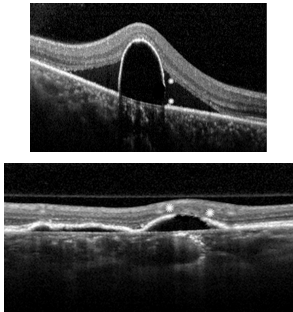
- RPE microrips occur up to 12% in the setting of CSCR
- RPE microrips show spontaneous closure in the natural course of CSCR



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### 2.3. Retinal Pigment Epithelium Aperture

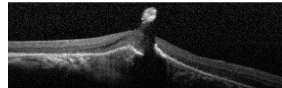
- RPE aperture can occur in patients with chronic CSCR in correspondence of avascular PED
- RPE aperture tend to increase in size over time



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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

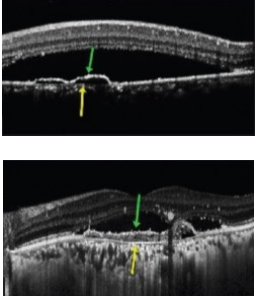


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### 2.5. Double Layer-Sign

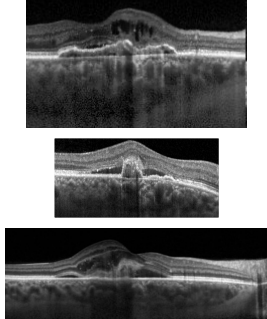
- DLS non-vascularized
- DLS vascularized



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### 2.6. Choroidal Neovascularization

- Type 1 CNV
- Aneurysmal type 1 NV
- Type 2 CNV



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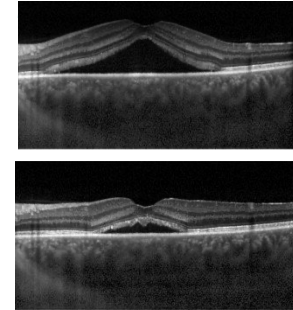
### 3. Retinal OCT Findings

- 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

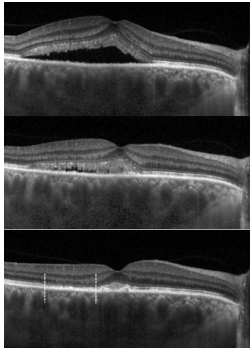
- In acute CSCR despite SRF the morphology of retinal layers remains unchanged



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### 3.2. Photoreceptor Outer Segment Elongation

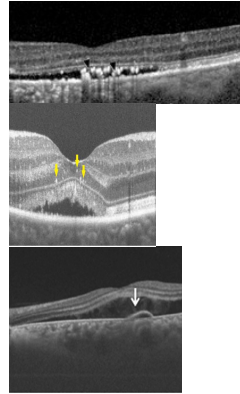
- PROS elongation is a frequent finding in the area of SRF
- Persistent PROS elongation may progress to permanent subretinal deposits
- Complete disappearance of OS as observed in chronic CSCR



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### 3.3. Hyper-Reflective Dots

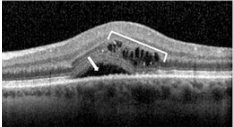
- HRD subretinal
- HRD intraretinal
- HRD could be PROS shedding, activated microglia and macrophages, or concentrated fibrin or lipid compounds



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### 3.4. Cystoid Macular Edema

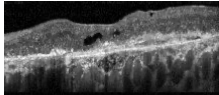
- CME is a complication of chronic CSCR and is accompanied by active angiographic leakage



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### 3.5. Cystoid Macular Degeneration

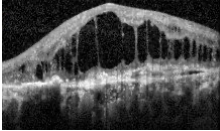
- CMD complicating chronic CSCR tend to occur where the retina adhered to atrophy of the RPE or subretinal fibrosis
- CMD is not accompanied by active angiographic leakage



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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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