A 29-Year-Old Female with Blurry Vision in Both Eyes

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Introduction:

A 29-year-old female presented to The Retina Institute with a 2 to 3-week history of blurry vision in both eyes. Her past medical history is significant for being 29 weeks pregnant with her first child. She was married and denied any medication use, including steroids. She denies any previous episodes of blurry vision in the past.

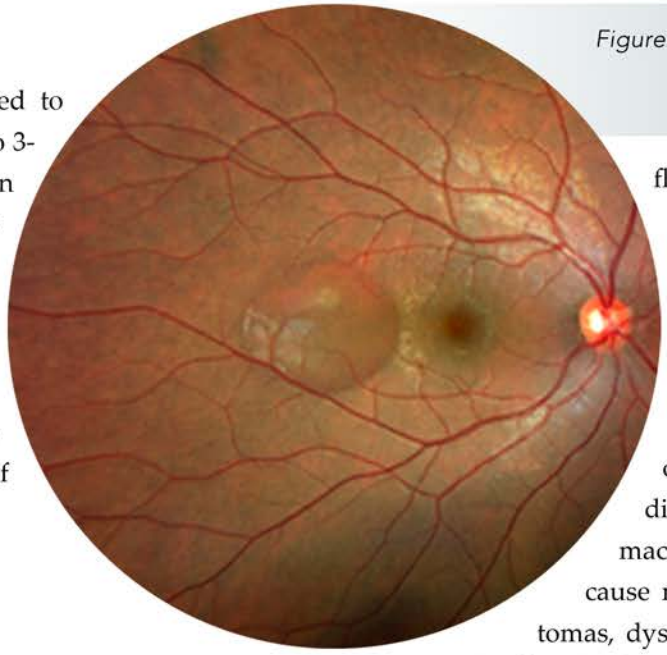
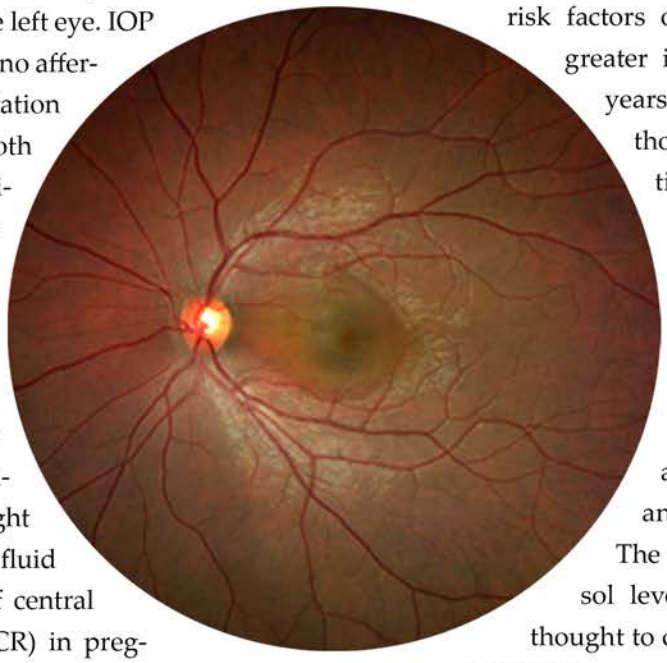


Figure 1: Color fundus photographs of both eyes showing serous macular detachments.

Exam:

On examination, corrected visual acuity was 20/20 in the right eye and 20/60 in the left eye. IOP was 14 in both eyes. There was no afferent pupillary defect. Confrontation visual fields were full in both eyes. Anterior chamber examination was normal. Fundus examination revealed serous macular detachment temporal to the fovea in the right eye and subfoveal macular detachment in the left eye (Figure 1). OCT revealed temporal subretinal fluid in the right eye and subfoveal subretinal fluid in the left eye. A diagnosis of central serous chorioretinopathy (CSCR) in pregnancy was made (Figure 2). The patient was given an Amsler grid and was advised that the subretinal fluid would likely resolve shortly after the birth of her child.



Discussion:

Central serous chorioretinopathy is an idiopathic disease characterized by serous macular detachment which can cause metamorphopsia, central scotomas, dyschromatopsia, and decreased visual acuity. Steroids and stress are recognized risk factors of the disease and there is greater incidence in men ages 20-50 years old. The pathophysiology is thought to be from leaky RPE tight junctions or hypoxia.

However, pregnancy is also a notable risk factor of CSCR. Pregnancy has been shown to increase the odds of developing CSCR by 7.1 and reports have shown an annual incidence of 0.008%.. The increase in endogenous cortisol levels in the third trimester is thought to contribute to the development of CSCR in pregnancy. Additionally, increased congestion of the choroidal vasculature from vasomotor

stress in pregnancy may also be a factor in the pathogenesis of CSCR in pregnancy.

Risk factors associated with development of pregnancy-associated CSCR (pCSCR) include hypertension, pre-eclampsia. Given the similarities in presentation, it is important to consider preeclampsia if a pregnant patient presents with pCSCR. Further work-up including MRI brain and a discussion with the patient's obstetrician may be warranted.

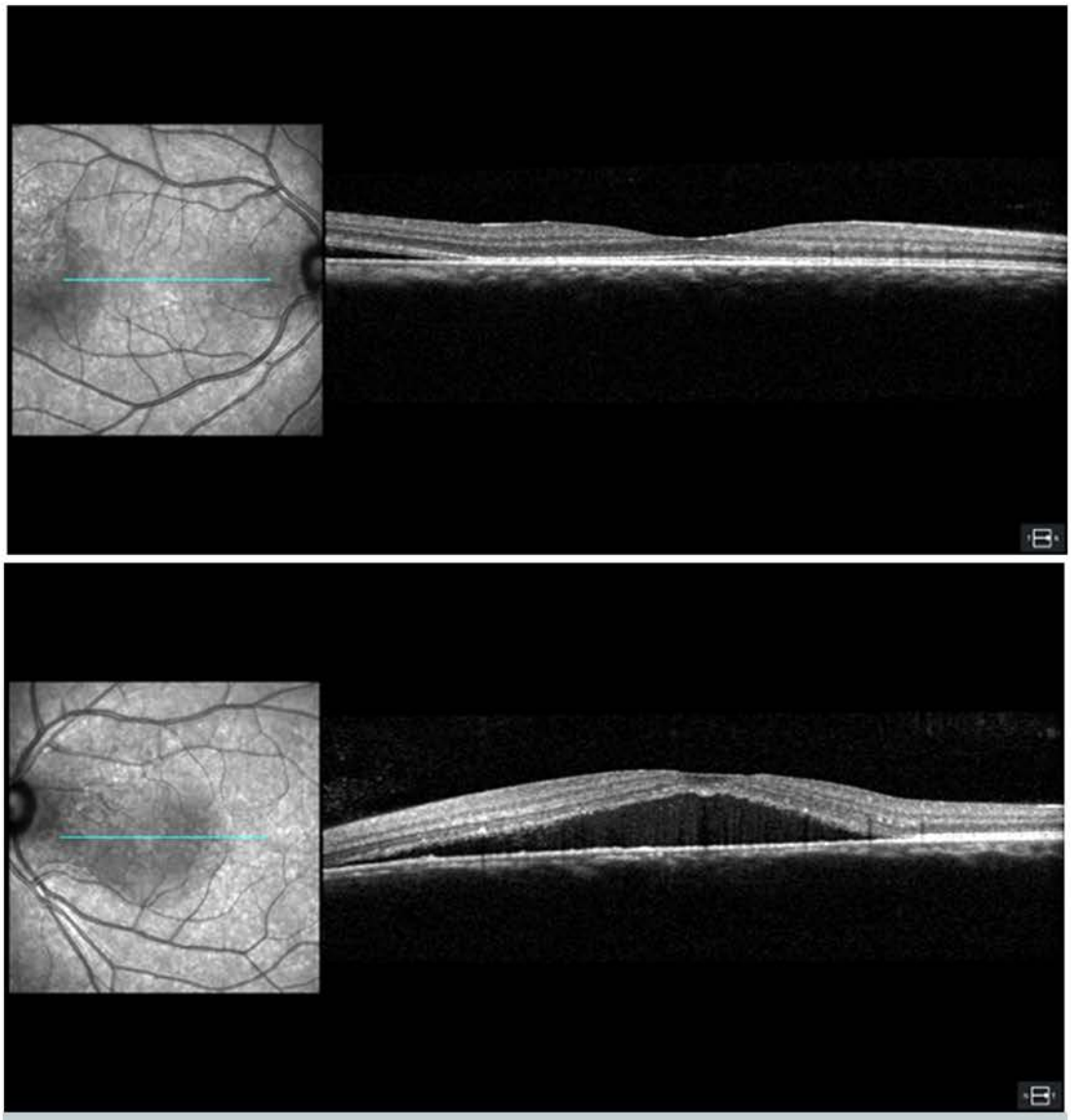


Figure 2: OCT demonstrating subretinal fluid in both eyes.

Interestingly, subretinal fibrin deposition is seen in 90% of eyes with pregnancy with pCSCR. As subretinal fibrin can be mistaken for CNV, it is important to be aware of this distinction. The standard of CNV detection traditionally utilizes fluorescein angiography, which is generally avoided in pregnancy (fluorescein in pregnancy class C). The fluorescein dye crosses the placenta and can be present in breast milk for 72 hours. In a survey of 399 retina specialists, published in 1990, 77% had never performed an FA on pregnant women. In this study, they concluded that fluorescein angiography does not cause a high rate of birth anomalies during pregnancy. Fortunately, the introduction of OCT angiography (OCTA) can now be utilized to non-invasively detect CNV.

Management of pCSCR largely includes observation. Typically, pCSCR will resolve spontaneously after delivery. In cases of fibrin-threatening fovea, one may consider focal laser photocoagulation. Photodynamic therapy may be another option, however, verteporfin is also pregnancy class C. Anti-VEGF therapy in pregnancy is also not recommended unless the benefits outweigh any risk to the fetus.

Conclusion:

The patient presented four months later with 20/20 vision in both eyes. There was complete resolution of subretinal fluid in both eyes (Figure 3).

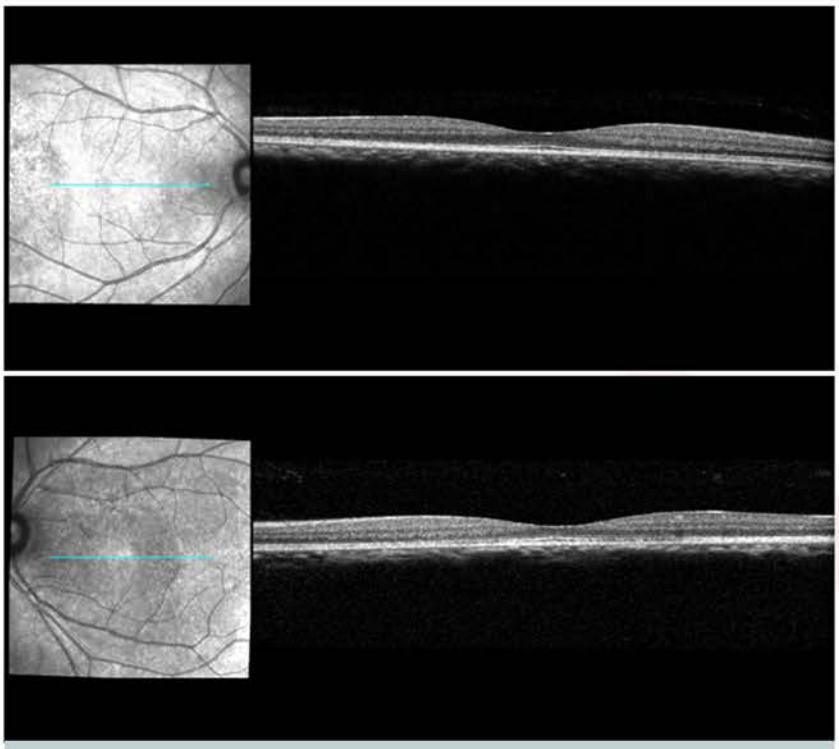


Figure 3: OCT demonstrating resolution of subretinal fluid in both eyes.

References:

1. Liew G, Quin G, Gillies M, Fraser-Bell S. Central serous chorioretinopathy: a review of epidemiology and pathophysiology. Clin Experiment Ophthalmol. 2013;41(2):201-214.

2. Garg SP, Dada T, Talwar D, Biswas NR. Endogenous cortisol profile in patients with central serous chorioretinopathy. Br J Ophthalmol. 1997;81(11):962-964.

3. Daruich A, Matet A, Dirani A, et al. Central serous chorioretinopathy: Recent findings and new physiopathology hypothesis. Prog Retin Eye Res . 2015;48:82-118.

4. Said-Ahmed K, Moustafa G, Fawzy M. Incidence and natural course of symptomatic central serous chorioretinopathy in pregnant women in a maternity hospital in Kuwait. Middle East Afr J Ophthalmol . 2012;19(3):273-276.

5. Morikawa M, Cho K, Kojima T, et al. Risk factors for central serous chorioretinopathy in pregnant Japanese women. J Obstet Gynaecol Res . 2017;43(5):866-872.

6. Kalogeropoulos D, Sung VC, Paschopoulos M, Moschos MM, Panidis P, Kalogeropoulos C. The physiologic and pathologic effects of pregnancy on the human visual system. J Obstet Gynaecol . 2019;39(8):1037-1048.

7. Charters L. What retinal specialists should know about their pregnant patients. Modern Retina. Published April 1, 2020. Accessed December 30, 2022. https://www.modernretina.com/view/what-retinal-specialists-should-know-about-their-pregnant-patients.

8. Halperin LS, Olk RJ, Soubrane G, Coscas G. Safety of fluorescein angiography during pregnancy. Am J Ophthalmol. 990;109(5):563-566.

9. Pole C, Gaw Stephanie SL, Tsui Irena I. Utility of optical coherence tomography angiography in pregnancy-associated central serous chorioretinopathy. Am J Ophthalmol Case Rep . 2020;20:100979.

10. Rosenthal JM, Johnson MW. Management of Retinal Diseases in Pregnant Patients. J Ophthalmic Vis Res. 2018;13(1):62-65.

11. Ben Ghezala I, Mariet AS, Benzenine E, et al. Association between Obstetric Complications and Intravitreal Anti-Vascular Endothelial Growth Factor Agents or Intravitreal Corticosteroids. J Pers Med. 2022;12(9). doi: 10.3390/jpm12091374.

12. Kianersi F, Ghanbari H, Naderi Beni Z, Naderi Beni A. Intravitreal vascular endothelial growth factor (VEGF) inhibitor injection in patient during pregnancy. J Drug Assess. 2021;10(1):7-9.

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