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Comment on: "Serous retinal detachment in preeclampsia and malignant hypertension"

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To the Editor

We read with delight the paper "Serous retinal detachment in preeclampsia and malignant hypertension" [1], with striking demonstration of choroidal and choriocapillaris (CC) ischemia leading to Serous Retinal Detachments (SRDs). We also wish to call attention to the fact that these findings are potentially of utmost importance for age-related macular degeneration (AMD), and in particular the reticular macular disease (RMD) phenotype with subretinal drusenoid deposits (SDD). In Figure 1, fifth row, the legend mentions that "multiple outer retinal … lesions remained following the resolution of subretinal and retinal fluid". In fact, these multiple, bilateral outer retinal lesions are all SDD.

CC ischemia has been proposed as the mechanism for SDD [2, 3], and in fact has been suggested as a common mechanism for SDD and geographic atrophy (GA) in patients with this advanced dry form of AMD [2]. Such associations have been confirmed in many papers. Alten et al. found that OCTA reveals a distinct reduction in CC vessel density and CC decorrelation signal index in eyes affected by SDD, also known as reticular pseudodrusen (RPD) [4].

Now we appear to have the key missing link, beyond simple association, of cause and effect. Herein, we see proof positive that CC ischemia in completely healthy young eyes can cause SDDs, fairly soon after the ischemic insult, in fact. Furthermore, the indocyanine green angiography (ICG) of the ischemic CC in another preeclampsia patient (Figure 2, second row) shows early choroidal filling delay, with multiple filling defects that look exactly like the defects on ICG of SDD in older AMD patients [5], another strong point for choriocapillaris etiology.

It is probable that many of the preeclampsia patients demonstrated SDD after the SRDs resolved, just as shown in Figure 1. It would be of great interest to know exactly how many. This could go a long way toward establishing the vascular pathway of chronic CC insufficiency as a major mechanism of SDD in older AMD patients, and then toward understanding AMD itself.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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References

1. Lee CS, Choi EY, Lee M, Kim H, Chung H. Serous retinal detachment in preeclampsia and malignant hypertension. Eye. 2019.
2. Xu L, Blonska AM, Pumariega NM, Bearelly S, Sohrab MA, Hageman GS et al. Reticular macular disease is associated with multilobular geographic atrophy in age-related macular degeneration. Retina. 2013;33:1850–62.
3. Martillo MA, Marsiglia M, Lee MD, Pumariega N, Bearelly S, Smith RT. Is reticular macular disease a choriocapillaris perfusion problem? Med Hypothesis Disco Innov Ophthalmol J. 2012;1:37–41.
4. Alten F, Heiduschka P, Clemens CR, Eter N. Exploring choriocapillaris under reticular pseudodrusen using OCT-Angiography. Graefes Arch Clin Exp Ophthalmol 2016; 254:2165–73.
5. Smith RT, Sohrab MA, Busuioc M, Barile G. Reticular macular disease. Am J Ophthalmol. 2009;148:733–43.

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