Massive submacular hemorrhage resulting in acute angle closure

Dear Sir,

We read with interest the article by Williams *et al*. describing a case of macular hemorrhage causing angle closure glaucoma.[1] The fundus photo shows pigment epithelial detachments and massive sub-macular hemorrhage, which is one of the common presenting features of polypoidal choroidal vasculopathy (PCV).[2,3] We are curious to know if fluorescein angiography or indocyanine green angiography was performed and, if so, whether these investigations revealed lesions consistent with neovascular age-related macular degeneration (AMD) or PCV. Although PCV is not as common in Caucasian populations compared to Asians, this is still an important differential diagnosis because the clinical course and treatment options for PCV differ from AMD.[4] In contrast to neovascular AMD, which typically responds well to monotherapy with intravitreal anti-vascular endothelial growth factor (anti-VEGF) agents, the EVEREST study showed that in patients with symptomatic macular PCV, combination therapy with verteporfin photodynamic therapy (PDT) and intravitreal ranibizumab was superior to PDT or intravitreal ranibizumab monotherapy in achieving polyp closure.[5]

Williams *et al*. described that their patient had an abnormally severe episode of cough, which might have caused the neovascular membrane to bleed and thereby precipitating the sub-retinal hemorrhage.[1] It has also been previously suggested that factors such as age, hypertension, and arteriosclerosis increase the fragility of blood vessels and hence their susceptibility to shearing forces such as coughing.[3] A paper by Tan *et al*. described a case of PCV causing massive sub-retinal and suprachoroidal hemorrhage resulting in secondary angle closure glaucoma,[3] and we were intrigued by the similarities between the presentations of these two patients. In the case described by Tan *et al*.,[3] the patient did not have any risk factors for suprachoroidal bleed such as anticoagulation use, coughing, or straining. This case illustrates that sub-retinal and suprachoroidal hemorrhages may occur spontaneously, without the need for precipitating factors.

In conclusion, we congratulate the authors on their timely intervention and on achieving a good clinical outcome. This

case serves to remind us to consider massive sub-retinal and suprachoroidal hemorrhages as causes of secondary angle closure glaucoma, especially in patients with known AMD and PCV.

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