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CORRESPONDENCE

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Response to: 'Comment on: 'Incidence of chorioretinitis and endophthalmitis in hospitalized patients with fungemia"

Eye (2022) 36:1855; https://doi.org/10.1038/s41433-021-01906-2

TO THE EDITOR:

We appreciate the comments by Dr Mark P. Breazzano, M.D. on our article in *Eye*: "the incidence of chorioretinitis and endophthalmitis in hospitalized patients with fungemia" [1]. We appreciate the opportunity to reply to some of the points that Dr. Breazzano raised.

As detailed in our paper, the main objective of our study was to report on the incidence of chorioretinitis and endophthalmitis in patients with fungemia, irrespective of a screening paradigm or place of exam. All cases of fungemia were identified through a retrospective review of microbiological data from our hospital. We reported on the eye findings of patients who had a documented eye exam. As such, we do not believe that including three patients that presented with endophthalmitis and were subsequently found to have fungemia would inflate our results. The fact that 4.3% of patients with fungemia developed active chorioretinitis and/or endophthalmitis still holds true.

We agree that the diagnosis of chorioretinitis can be challenging in patients with multiple systemic co-morbidities that can cause retinal pathologies. The study was done in a tertiary care medical center. The fact that only 3 patients out of 139, most admitted to the ICU, were labeled as having chorioretinitis reflects our strict inclusion criteria for that category. A diagnosis of chorioretinitis was made when deep focal white infiltrates were seen in the choroid or retina, with the diagnosis made by a vitreoretinal specialist, and confirmed on more than one exam.

In clinical practice, the finding of chorioretinal lesions with overlying vitritis or fluff balls, in a patient with fungemia, is considered sufficient evidence to make the diagnosis of fungal endophthalmitis and rarely requires tissue confirmation. The response to intraocular injections of voriconazole supports the diagnosis.

The three patients diagnosed with fungal chorioretinitis were managed with systemic antifungals, with resolution of the lesions. The four patients with endophthalmitis (one with bilateral involvement) were all on systemic antifungals when they developed endophthalmitis. One patient was discharged from the hospital prior to receiving an eye exam, and presented to the eye clinic within 5 weeks with bilateral endophthalmitis. Three patients received intravitreal voriconazole, and two patients underwent pars plana vitrectomy. One of the patients was lost to follow up, and the other two had a favorable visual and anatomic outcome. The fourth patient diagnosed with endophthalmitis declined any surgical intervention and passed away.

Of note, when our study was submitted and published, the new American Academy of Ophthalmology recommendations on screening for endogenous Candida Endophthalmitis guidelines were not released yet [2]. Our statement that our "Our study supports the guidelines set forth by both the IDSA and the AAO regarding ophthalmologic screening of patients with candidemia" was correct at the time of publication.

Our study does have inherent limitations of retrospective studies. However, we stand by our finding of 4.3% incidence of fungal chorioretinitis and endophthalmitis in patients with fungemia. Even though fungal chorioretinitis can resolve with systemic therapy and be self-limited, fungal endophthalmitis can have a fulminant course, is not self-limited and always requires a surgical intervention [3]. Patients with fungemia who are unable to communicate should have a dilated fundus exam to rule out endophthalmitis. Otherwise, all patients with fungemia who report new onset of ocular symptoms should be promptly evaluated.

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COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

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Received: 16 November 2021 Revised: 17 November 2021 Accepted: 14 December 2021
Published online: 20 January 2022