The ROYAL COLLEGE of OPHTHALMOLOGISTS

CORRESPONDENCE

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

Eye (2022) 36:1854; https://doi.org/10.1038/s41433-021-01905-3

To the Editor:

I read the paper by Siddiqui et al. with concern [1]. There are multiple shortcomings including selection bias, convoluted inclusion criteria, absent ocular tissue validation, confirmation bias, lacking long-term outcomes, missing relevant data, and absent controls. The flawed methodology limits its conclusions, including "the need for screening dilated fundus exams for patients with bloodstream *Candida* infections" (candidemia). As written, this report propagates misinformation and promotes the low-value practice of screening in vulnerable patients with dangerous potential for harm.

The authors convolute and inflate their intraocular infection rate from candidemia by including three of four endophthalmitis cases outside the screening paradigm. Ultimately, only one demonstrated endophthalmitis (0.7%, 1/143) captured by screening, consistent with known rarity [2]. Two had bacteremia to account for infection instead of candidemia, confounding results and indicating confirmation bias. While essential, no control group is provided. Approximately 19% of critically ill patients with or without candidemia have abnormal retinal findings [3] including cotton wool spots that may be clinically indistinguishable from chorioretinitis.

Confirmation bias is also demonstrated by two endophthalmitis cases, allegedly following lack of screening, without appropriate context or supportive evidence. Adequate management of underlying causes—candidemia and related comorbidities—is associated with resolution of retinal findings and survival, regardless of ophthalmologic intervention [2]. As advocated by Infectious Diseases Society of America (IDSA), candidemia should prompt immediate systemic antifungal therapy for minimum 2 weeks following negative blood culture growth with infectious source control and indwelling catheter exchange [4].

There is also no mention of any: intraocular fungus confirmation, management changes from screening, or long-term outcomes. Over half (51%, 147/290) were unscreened, demonstrating selection bias. Inadequate evidence is provided for supporting screening in "noncommunicative" patients. This practice could lead to unnecessary invasive interventions [2] with risks to patients who cannot provide informed consent, particularly those with self-limited disease.

Finally, stating their "study supports the guidelines set forth by both the IDSA and the AAO regarding ophthalmologic screening of patients with candidemia" is incorrect. IDSA independently recommended universal ophthalmologic screening for candidemia, acknowledging self-considered "low-quality" evidence, without participation by ophthalmologists [3]. Instead, the American Academy of Ophthalmology (AAO) recommends this low-value practice be deadopted [5].

Mark P. Breazzano [1] ✉

[1] *Wilmer Eye Institute, Johns Hopkins Hospital, Johns Hopkins University School of Medicine, Baltimore, MD, USA.*

✉*email: mbreazz1@jhmi.edu*

REFERENCES

1. Siddiqui MZ, Gebhard GM, Ahmad KT, Sallam AB, Rosenbaum ER, Uwaydat SH. Incidence of chorioretinitis and endophthalmitis in hospitalized patients with fungemia. Eye (Lond). 2021 Mar. https://doi.org/10.1038/s41433-021-01477-2.
2. Breazzano MP, Day HR Jr, Bloch KC, Tanaka S, Cherney EF, Sternberg P Jr, et al. Utility of ophthalmologic screening for Candida bloodstream infections: a systematic review. JAMA Ophthalmol. 2019;137:698e710.
3. Rodríguez-Adrián LJ, King RT, Tamayo-Derat LG, Miller JW, Garcia CA, Rex JH. Retinal lesions as clues to disseminated bacterial and candida infections: frequency, natural history, and etiology. Med (Baltim). 2003;82:187e202.
4. Pappas PG, Kauffman CA, Andes DR, Clancy CJ, Marr KA, Ostrosky-Zeichner L, et al. Executive summary: clinical practice guideline for the management of candidiasis: 2016 update by the Infectious Diseases Society of America. Clin Infect Dis. 2016;62:409e417.
5. Breazzano MP, Bond JB 3rd, Bearelly S, Kim DH, Donahue SP, Lum F, et al. American Academy of Ophthalmology Recommendations on Screening for Endogenous Candida Endophthalmitis. Ophthalmology. 2021;S0161-6420:00526–1.

AUTHOR CONTRIBUTIONS

MPB was the sole contributor of this article.

COMPETING INTERESTS

The author declares no competing interests.

ADDITIONAL INFORMATION

Correspondence and requests for materials should be addressed to Mark P. Breazzano.

Reprints and permission information is available at http://www.nature.com/reprints

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Received: 21 August 2021 Revised: 14 December 2021 Accepted: 14 December 2021
Published online: 27 January 2022