

Journal Pre-proof

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TITLE:

The controversial drive for intervention with ophthalmologic screening for *Candida* bloodstream infections

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We read the study by Shin et al.¹ with concern regarding endogenous *Candida* endophthalmitis (ECE). They report high ECE incidence (12.9%) among ophthalmologically examined patients with candidaemia, which nearly half (41.4%) were subjected to intravitreal injection±vitreous aspiration, and/or vitrectomy, despite symptoms absent in most (65%). They conclude, “Early active screening and treatment” of ophthalmic candidaemia complications is needed.¹ We believe their data do not support this recommendation.

The authors do not define ECE, treatment indications, or treatment failure criteria. They include cases without vitreous extension as ECE, falsely doubling the true incidence, as seen previously.² This discrepancy is critical, since distinguishing between true endophthalmitis (always involving vitreous) and less serious disease has management implications.²⁻⁵ Since 19% of ICU patients without candidaemia can exhibit indistinguishable ocular findings, including control groups in these studies is essential.^{4,6} The proportion of vitreous involvement among patients receiving invasive intervention is not provided. As 6 (20.7%) did not improve, it is unclear if these patients were subjected to unnecessary intervention, given inaccurate diagnosis in half and no *Candida* growth from vitreous. At best, these patients had true endophthalmitis with severe disease, refractory to invasive intervention regardless of screening. At worst,

these cases were not true endophthalmitis and subject to iatrogenic complications from an intervention that may have not been necessary. Iatrogenic complications are not infrequent, with occasionally devastating consequences.⁷

Information is not provided regarding central catheter removal or timing of systemic antifungal therapy following candidaemia diagnosis, both known to influence endophthalmitis outcomes and mortality.^{2,5,8,9} Early screening and invasive ophthalmologic interventions have not been demonstrated to improve outcomes.^{2,10} These recommendations are established by the Infectious Diseases Society of America (IDSA)⁵ based upon evidence from small case series,⁹ though many cases are effectively managed without invasive approaches.^{2,8} A comparison of strategies is not provided here, possibly because 31% of outcome data for ECE patients are missing.¹ Conclusions regarding outcomes are also limited by the large proportion of unscreened patients (70.6%), identified by these authors as an important source of selection bias.¹

Though the authors suggest their findings support IDSA guidelines,⁵ the study does not provide data that asymptomatic patients benefited from screening or that invasive ophthalmologic procedures resulting from screening improved outcomes. In conclusion, the recommendation by Shin et al.¹ to continue universal ophthalmologic screening for candidaemia should be tempered as it is not supported by the data, and may further drive invasive procedures leading to harm.

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