TO THE EDITOR: We read with interest the recent study reported by Chang et al1 describing the use of various diagnostic imaging modalities in classifying pediatric eyes as having papilledema versus pseudopapilledema. Although this study offers important insight regarding this diagnostic dilemma, we came across what seems to be a critical error in study design. The images this study presents as fundus autofluorescence seem to be, in fact, red-free fundus photographs captured with a green filter.

The source of autofluorescence imaging (488-nm excitation) relies primarily on the signal generated by the bisretinoids of lipofuscin in retinal pigment epithelium cells.2 In this imaging modality, the macula seems to be bright, with the exception of the fovea, owing to increased signal absorption by luteal pigment. The optic nerve head exhibits no autofluorescence signal owing to the absence of retinal pigment epithelium. Similarly, retinal vessels seem to be dark because of absorption of signal by blood.2

The images in Figures 1B, 2B, and 3B (in the original article) reveal anatomic characteristics not attributable to autofluorescence imaging, including visible tessellation of underlying choroidal vessels, prominent sheen of the nerve fiber layer, reflective optic discs, and dark gray vessels. These findings are discernable in images from a modality that detects reflected light through a red-free filter (between 540 and 570 nm), which we assert is the case in at least these 3 figures. We believe this critical error ought to be addressed, because the study specifically associates a high rate of misinterpretation of papilledema as pseudopapilledema through autofluorescence.1 The article concludes that, although autofluorescence was able to identify superficial optic disc drusen, it was only 56% (95% confidence interval, 33%—79%) accurate in identifying suspected buried optic disc drusen.

The overall conclusions regarding the validity of other imaging modalities in distinguishing papilledema and pseudopapilledema seem to be reliable. However, the authors should clarify whether the error identified above was technical, in the preparation of Figures 1 through 3 (in the original article), or systematic across their analyses. Otherwise, this study cannot be used to guide ophthalmologists in understanding the role of fundus autofluorescence in differentiating these clinically distinct entities.

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References
