



Editors' Note: Direct ophthalmoscopy is sometimes omitted during the neurologic examination, even when it is necessary. There is no definite solution for this issue, Appleton et al. and Bruce et al. agree. But the former endorses appropriate and thorough clinical examination while the latter explains the benefit of nonmydriatic ocular fundus photography, especially when the ocular abnormalities are subtle. Distinguishing behavioral variant frontotemporal dementia (bvFTD) from Alzheimer disease (AD) can be challenging. In response to Hornberger, who argues that episodic memory deficit is a poor diagnostic predictor to discriminate bvFTD from AD, Mendez clarifies that their study looked at a select group of patients clinically diagnosed with bvFTD, some of whom proved to have AD on pathology.

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NONMYDRIATIC OCULAR FUNDUS PHOTOGRAPHY AMONG HEADACHE PATIENTS IN AN EMERGENCY DEPARTMENT

Jason Appleton, David Nicholl, Birmingham, UK:

Thulasi et al.¹ attempted to improve the fundoscopic assessment of patients with headache. Due to incidents involving missed papilledema, the TOS score was developed to assess the quality of neurologic examination. This method involves asking patients if they recall being examined with a tendon hammer (T), ophthalmoscope (O), and stethoscope (S).² We demonstrated that inpatients referred to neurology were not being appropriately examined. Of 93 inpatients referred to neurology, 33% could not recollect being examined with a tendon hammer, and 48% said they had not been examined with an ophthalmoscope, whereas 95.7% remembered the use of a stethoscope. Bruce et al. showed that nonmydriatic fundus photography can be performed by nonmedical personnel in the emergency department (ED),³ yet expensive equipment and expertise to review the images complicates this process. In contrast, the use of a low-tech assessment tool such as the TOS score is easily reproducible in different health care settings.⁴ A less expensive ophthalmoscopy option may lie with a single-lens ophthalmoscope, which has been shown to be as effective as more expensive multilens rivals.⁵ There is no easy solution to this issue but there is no substitute for appropriate and thorough clinical examination.

Author Response: Beau B. Bruce, Valerie Biousse, Nancy J. Newman, Atlanta: We agree with Drs. Appleton and Nicholl that there is no easy solution to improve the use and accuracy of the ocular fundus examination by physicians. Unfortunately, ensuring that patients are examined by direct ophthalmoscopy (DO) does little to ensure accurate examination, which, like consistent use, has been unsuccessful even with extensive training.⁶ Furthermore, many findings in our study were subtle (e.g., a single retinal hemorrhage) and difficult to detect with DO, even for skilled examiners.¹ We believe that education of nonophthalmologists in ocular fundus assessment will prove more useful if directed at interpretation of fundus photography rather than at learning DO techniques. Evaluating the cost-effectiveness of nonmydriatic ocular fundus photography in the ED is difficult due to the heterogeneity of underlying conditions that present with ocular fundus abnormalities and the wide range of visual and medical outcomes. However, the cost-effectiveness of nonmydriatic photography screening has been demonstrated in sight-threatening conditions with similar or lower frequencies of relevant findings than seen in the ED (e.g., diabetic retinopathy screening).^{7,8} This cost-effectiveness would be expected to extend to the high-acuity ED environment, and further technological improvements should enhance imaging capability while decreasing cost.

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CLINICOPATHOLOGIC DIFFERENCES AMONG PATIENTS WITH BEHAVIORAL VARIANT FRONTOTEMPORAL DEMENTIA

Michael Hornberger, Sydney: Mendez et al.¹ found that distinguishing between pathologically confirmed bvFTD and AD can be determined by personality changes, problem-solving, and episodic memory deficits. This could have implications on future bvFTD diagnostic criteria. The higher incidence of episodic memory problems in AD raises the controversial issue: is a memory deficit a reliable diagnostic criterion in distinguishing between the pathologies? There is increasing evidence that an episodic memory deficit is a poor diagnostic predictor for bvFTD and AD, even in pathologically proven cases.^{2–5} Closer inspection of the authors' findings reveals that their neuropsychological memory measures confirm these findings by showing no episodic memory difference between bvFTD and AD. The authors based their recommendation on the binary informant-based decision of episodic memory deficits presence, which does not converge with their more objective neuropsychological findings. This discrepancy is concerning. The recommendation to discriminate between bvFTD and AD on the basis of memory deficits may not be war-

ranted by their data. The authors should have mentioned this caveat in their publication.

Author Response: Mario F. Mendez, Los Angeles:

We thank Dr. Hornberger for his comments and agree that there is a discrepancy between the informant-based and neuropsychological memory deficits. We also agree that this should have been discussed further in our article. Dr. Hornberger and colleagues have shown that episodic memory deficits may not be good discriminators of bvFTD from AD.

However, our study was not a direct comparison of patients with bvFTD and AD. It was a select group of patients who were clinically diagnosed with bvFTD—some with proven AD on pathology. In this group, their presenting symptoms—including reports of memory deficits (not episodic memory impairments on testing)—appeared helpful in distinguishing those who then showed AD on neuropathology.

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Nonmydriatic ocular fundus photography among headache patients in an emergency department

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