A new optotype chart for detection of nonorganic visual loss

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OBJECTIVE: To develop a new optotype chart for detection of nonorganic decreased vision. DESIGN: Comparative observational case series. PARTICIPANTS: Optotype thresholds determination in three normal subjects and testing on 30 consecutive patients with unclear visual acuity loss. METHODS: A new optotype chart was developed, with an optotype minimum angle of resolution that is independent of size. In three normal subjects rank correlation was calculated between the optotype thresholds and the optotype sizes. A pocket chart was tested in a masked manner on 30 consecutive patients referred because of unclear visual acuity loss. MAIN OUTCOME MEASURES: Optotype thresholds and usefulness in clinical routine (positive and negative predictive values including 95% confidence intervals [CI]). RESULTS: The optotype thresholds did not correlate with the optotype sizes. Ten percent (3 of 30) of the patients referred because of unclear visual acuity loss had to be excluded, because their diagnosis remained unclear. All patients (16 of 16) with organic visual loss saw all optotypes sizes. Eighty-nine percent (10 of 11) of patients with nonorganic visual loss claimed to see only the larger optotypes. The positive predictive value for nonorganic visual loss of the new pocket chart was 100% (CI, 74%-100%); the negative predictive value was 94% (CI, 75%-100%). CONCLUSIONS: The new pocket chart seems to be useful for detection of visual loss caused by nonorganic disease.