Comparison of an automated confrontation testing device versus finger counting in the detection of field loss.

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Abstract

PURPOSE: The aim of this study was to compare an automated confrontation visual field testing (ACV) device with traditional finger-counting confrontation visual field testing (FCV).

METHODS: Forty-five eyes of 45 subjects with glaucoma, 5 eyes of 5 subjects with neurologic disease and 15 eyes of 15 normal subjects (age matched to the subjects with glaucoma by frequency) were tested on both ACV and FCV. All subjects with glaucoma and neurologic disease had visual field loss on white-on-white Humphrey perimetry (HVF). The FCV was performed in 8 meridians in a normally lighted room, whereas ACV was performed in a darkened room. The ACV device consisted of a black rectangular box with 4 1.0-mm red light-emitting diodes at each corner and a fixation hole at the center. Four automated randomized presentations were presented, and the subject was asked to identify the number of red lights seen (from 1 to 4). Any point missed on any of the presentations on either test was recorded as a failure.

RESULTS: All normal subjects passed both tests. FCV detected field loss in 33.0% of glaucomatous eyes, whereas ACV detected field loss in 58% of glaucomatous eyes (P < 0.001). Subjects with glaucoma who passed FCV but failed ACV had an average mean deviation of -7.77 dB on HVF, compared with subjects who failed both FCV and ACV, who had an average mean deviation of -19.74 dB on HVF (P < 0.001). All subjects with absolute visual field loss because of advanced glaucoma or neurologic disease failed both tests. No subject who passed ACV failed FCV.

CONCLUSIONS: Gross confrontation visual field testing using an automated testing device has a greater sensitivity in the detection of moderate visual field loss than finger counting confrontation visual fields.

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