



# Monochromatic Pupillometry in Unilateral Glaucoma Discloses no Adaptive Changes Subservd by the ipRGCs

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## Résumé en anglais

**PURPOSE:** To detect signs of a possible adaptive mechanism of the intrinsically photosensitive ganglion cells in unilateral glaucoma. **METHOD:** Eleven patients with unilateral glaucoma, classified by automated perimetry (glaucoma: mean deviation <0), were studied by monochromatic pupillometry, employing red (660 nm) or blue (470 nm) light, and by optical coherence tomography of the peripapillary retinal nerve fiber layer. The main outcome measure in pupillometry, the area under the curve (AUC), i.e., the product of pupillary contraction amplitude and time, was determined during and after light exposure in glaucomatous and unafflicted fellow eyes and compared to the AUCs of a healthy, age-matched control group. **RESULTS:** The AUC to stimulation with blue light was significantly reduced in glaucomatous eyes, both during and after stimulus, compared with that of fellow, unafflicted eyes ( $p = 0.072$ ), exposure in glaucomatous eyes. In the unafflicted fellow eyes, the pupillary response to blue light did not differ from that of healthy controls. **CONCLUSION:** The pupillary response to blue light was decreased in the glaucomatous eyes of unilateral glaucoma. No difference was detected between the pupillary light response of the unafflicted fellow eyes and that of a healthy, age-matched control group. Thus no sign of an adaptive mechanism was detected, neither in the glaucomatous nor in the unafflicted fellow eyes, and consequently glaucoma appears to differ from non-arteritic anterior ischemic optic neuropathy.

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## Liens

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