[Diagnosis of horner syndrome by pupil dilation lag]

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BACKGROUND: In the first seconds after switching off the lights, Horner pupils often show a dilation lag. This dilation lag is diagnostic for Horner syndrome. We investigated whether the visibility of the dilation lag can be improved by increasing the amplitude of pupil dilation. PATIENTS AND METHODS: In four patients with pharmacologically confirmed Horner syndrome pupil sizes were registered bilaterally simultaneously with an infrared camera. Dilation lag was induced by switching off the light while the patient was fixating at distance or by turning off the light and changing fixation from near to far at the same time. An increase of anisocoria of 0.5 mm or more within the first 4 seconds was interpreted as dilation lag. RESULTS: Dilation lags were seen in one patient with both methods, in two patients only with the second method, and in one patient with neither method. CONCLUSIONS: Dilation lag visibility can be improved by asking the patient to change fixation from near to far at the moment when the lights are switched off.