Marcus Gunn pupil

AKA (relative) afferent pupillary defect (APD or RAPD), AKA amaurotic pupil. Finding: consensual response to light is stronger than the direct (normal responses are equal). Contrary to some textbooks, the amaurotic pupil is not larger than the other [1)].

The presence of the consensual reflex is evidence of a preserved third cranial nerve (with parasympathetics) on the side of the impaired direct reflex. Best detected with the swinging flashlight test.

Etiologies

Lesion anterior to the chiasm ipsilateral to the side of the impaired direct reflex:

1. either in the retina (e.g. retinal detachment, retinal infarct e.g. from embolus)

2. oropticnerve,asmayoccurin:

a) optic or retrobulbar neuritis: commonly seen in MS, but may also occur after vaccinations or viral infections, and usually improves gradually

b) trauma to the optic nerve: indirect

or direct c) compression by tumor anterior to the chiasm

Relative Afferent Pupillary Defect (RAPD) is a condition in which pupils respond differently to light stimuli shone in one eye at a time due to unilateral or asymmetrical disease of the retina or optic nerve.

Swinging flashlight test or Marcus Gunn test is one of the most basic eye exams that neurologists, ophthalmologists, optometrists and primary care doctor perform when visiting most of their patients. The doctor asks her patient to look ahead then shines a penlight first toward one eye, then the other, alternating quickly to observe patient's pupils' response to the light. In case if both pupils do not show a similar response to the light stimuli, shone in one eye at a time, the patient will be diagnosed with RAPD or Marcus Gunn pupils. The results of this simple yet very important test help doctors in early diagnosis of many important eye related diseases such as optic neuropathy and multiple sclerosis.

1)
Walsh FB, Hoyt WF. Clinical Neuro-Ophthalmology. Baltimore 1969