Adie's pupil (About a case)

ABSTRACT

Adie syndrome is a relatively common neurological disorder of unknown etiology comprising unilateral or bilateral tonically dilated pupils with light-near dissociation and tendon areflexia . Adie syndrome is mostly idiopathic with no identifiable cause but may rarely be caused by local disorders involving the orbit that affect the ciliary ganglion including infections such as syphilis, varicella, autoimmune hepatitis,sarcoidosis. Adie's syndrome is a clinical diagnosis. Low-concentration pilocarpine (one-eighth to one-tenth percent) test may be useful to demonstrate the cholinergic denervation supersensitivity (80% prevalent) in the tonic pupil. The usual treatment of a standardised Adie syndrome is to prescribe reading glasses to correct for impairment of the eye(s) if it exist. Adie's syndrome is not life-threatening or disabling. As such, there is no mortality rate relating to the condition. We report a case of a young man without a history of medical pathology, who presented with an isolated pupil of adie for ten months.

INTRODUCTION

Adie's syndrome is a relatively common neurological disorder of unknown etiology comprising dilated unilateral or bilateral pupils with near-lumen dissociation. [1] It is named after the British neurologists William John Adie and Gordon Morgan Holmes, who independently described the same disease in 1931.[2] The syndrome is caused by damage to the post ganglion fibers of the parasympathetic innervation of the eye. It is frequently observed in women with, in particular, tendon areflexia. [3] Adie's syndrome is a clinical diagnosis. Low-concentration pilocarpine (one-eighth to one-tenth percent) test may be useful to demonstrate the cholinergic denervation supersensitivity (80% prevalent) in the tonic pupil.[3][4] After the administration of the dilute pilocarpine, a more miotic response will be seen in the affected eye compared with the normal fellow eye since these low concentrations are usually

ineffective in normal pupils.[4] The tonic pupil may become smaller (miotic) over time which is referred to as "little old Adie's". [5] We are reporting the case of a young man with an isolated Adie pupil .

Observation

A young man aged 27, with no particular history, presented to the Ophthalmology Outpatient Department with anisocoria discovered 10 months ago by the patient himself; without other accompanying signs.

On examination ,he had a vision of 10/10 in both eyes. The photomotor reflex examination found a right pupil in reactive semi-mydriasis, the consensual reflex is present, there is no PDAR (Figure 1). There was also no limitation of the oculomotor muscles. Eye tone and anterior segment examination were normal in both eyes. The fundus examination was unremarkable. The examination of the osteotendinous reflexes was normal and the cerebral orbital MRI angiography is without abnormality. The pilocarpine test diluted to 0.125 is positive (Figure 2). The remainder of the neurological, cardiovascular and osteotendinous examination was normal. So we concluded that it is a pupil of Adie.

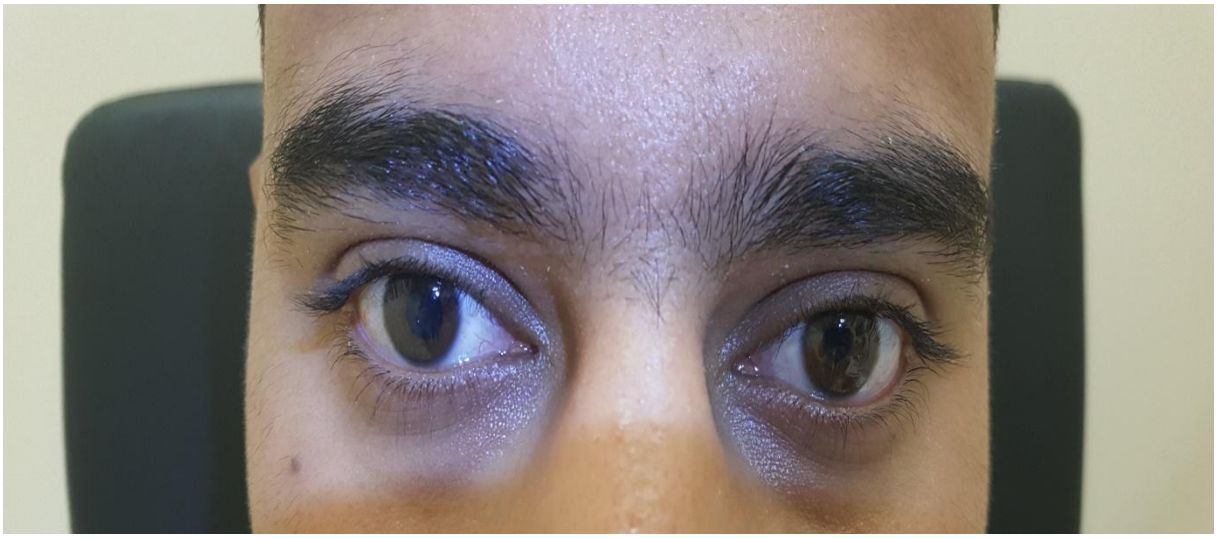

Figure 1 : Right eye showing a dilated pupil despite bright lighting (Adie's pupil)

Figure 2: Miosis pupil after the pilocarpine test confirming the diagnosis of the Adie's pupil

DISCUSSION

Adie syndrome is primarily idiopathic with no identifiable cause, but can rarely be caused by local disorders involving the orbit that affect the ciliary ganglion, including infections such as syphilis, chickenpox, human parvovirus B19, the virus human immunodeficiency and Lyme disease, [6] [7] ischemia due to lymphomatoid granulomatosis, migraine and giant cell arteritis, [7] [8] autoimmune diseases such as Sjögren's syndrome, polyarteritis nodosa, sarcoidosis, amyloidosis, Guillain-Barré and Vogt-Koyanagi syndrome -Harada disease, [8], local or general anesthesia, [9] orbital or choroidal tumors, [10] orbital surgery for orbital floor fractures, [11] neuromuscular conditions such as Lambert-Eaton myasthenic syndrome and paraneoplastic in association with anti-Hu antibodies. [12] It can also be caused by retinal photocoagulation which results in damage to the ciliary nerves in the suprachoroidal space. [13]

The incidence of Adie's syndrome is approximately 4.7 / 100,000 inhabitants / year with a prevalence of two cases / 1,000 inhabitants (approximately). [14] Young adults generally aged 25 to 45 are the most frequently affected, as is the case with our patient. On the other hand, there is a female predominance unlike our case, it was a male patient.

West and Barnett [15] had reported ocular findings such as lens opacities, vitreous frosting, arteriosclerotic changes, eyelid abnormalities (stiffness or tightness in, telangiectasia), deficient tear secretion, and conjunctival abnormalities (injection and vascular sludging) in thirty-eight patients with systemic sclerosis. Anand [16] has described a patient with eyelid tightness and colloid bodies in retina.

Adie's syndrome is a clinical diagnosis. A low concentration pilocarpine test (one-eighth to one-tenth percent) may be useful in demonstrating supersensitivity to cholinergic denervation (80% prevalent) in the tonic pupil. [17] After administration of diluted pilocarpine, a more miotic response will be observed in the affected eye compared to the other normal eye since these low concentrations are generally ineffective in normal pupils. [18]

There is no treatment and the pilocarpine, which contracts the pupil, is generally poorly tolerated; however, wearing tinted glasses does reduce photophobia. [19]

We often see a stability of mydriasis, sometimes it decreases slightly over time. Sometimes we can see bilateralization (rare). [20]

CONCLUSION

Adie's pupil is a rare manifestation, the eye examination is important and the pilocarpine test remains the fundamental diagnostic element.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

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