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### Hughlings Jackson and the Holmes-Adie tonic pupil

The names of Gordon Holmes<sup>1</sup> and W James Adie<sup>2,3</sup> are traditionally attached to the syndrome of myotonic pupils and tendon areflexia. Some 50 years earlier in 1881, mydriasis with pupillary paralysis was described clearly by Hughlings Jackson.<sup>4</sup> In 1914 Oloff found negative Wasserman reactions in blood and CSF in an 18 year old boy with tonic pupils, thereby showing that syphilis—previously implicated—was not the cause. Harriman and Garland<sup>5</sup> credited earlier papers dating to 1902 (Strassburger, Saener) that described tonic pupils.

#### Hughlings Jackson<sup>4</sup>:

"A woman aged 26 was sent to see me simply because the right pupil was much larger than the left. It had been so three years . . . the right pupil was dilated and absolutely motionless to light, and also during accommodation, yet the accommodation itself on this side was perfect; this was severely tested by Mr Couper . . . this case at first puzzled me . . . It occurred to me to test the knees. Neither I nor Mr Couper found the smallest trace of the knee phenomenon. Several times did I pertinaciously inquire for other symptoms of tabes; there were no other symptoms of any kind . . . Dr Buzzard . . . confirmed the above observations."

#### Sir Gordon Holmes<sup>1</sup>:

"Frequently no change in the size of the pupil was visible immediately on convergence, but when this was maintained for a few seconds the pupil slowly and gradually grew smaller, till its diameter equalled or was even narrower than that of the normal eye. The rate of contraction varied very much . . . When contracted the pupil remains constant and when convergence is relaxed it dilates slowly."

Adie<sup>3</sup> described 19 patients, 13 with absent tendon reflexes, and noted 44 reported cases of tonic pupil. In an exemplary clinical essay, he outlined four incomplete forms (the last would not now be accepted).

1. The complete form—typical tonic pupil and absence of reflexes.
2. Incomplete forms: a) tonic pupil alone; b) atypical phase of the tonic pupil alone (iridoplegia<sup>1</sup>); internal ophthalmoplegia<sup>2</sup>); c) atypical phases of the tonic pupil with absent reflexes; d) absent reflexes alone."

Adie did not claim originality, recognising descriptions from 1902. Holmes's work is not acknowledged in Adie's *Brain* paper. Adie commented on the past misconstrued attribution to syphilis: "A perversion of nervous activity" of the vegetative nervous system was, he thought, the cause.

It was the London ophthalmologist, James Ware (1756-1815), however, who furnished one of the earliest depictions in 1813.<sup>6</sup>

J M S PEARCE

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