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CASE REPORT

Parinaud's syndrome – A rare presentation of clinically isolated syndrome

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Demyelination;
Convergence-retraction nystagmus;
Vertical diplopia

Abstract
We present a 26 year old Pakistani lady with first presentation of a demyelinating event, presenting as Parinaud's syndrome. The video demonstrates a convergence-retraction nystagmus on upgaze and failure of accommodation, and her brain imaging confirms a corresponding pre-tectal contrast enhancing T2 hyperintense lesion suggestive of demyelination. A review of the literature is presented.

1. Introduction

Parinaud's syndrome or dorsal mid brain syndrome was first described by Parinaud (1883) with vertical paralysis and/or convergence paralysis and includes a putative case of multiple sclerosis (MS). The case descriptions of the syndrome have since widened to include convergence-retraction nystagmus, pathologic eyelid retraction (Collier's sign) and Pseudo-Argyll-Robertson pupils (mid-dilated pupils with light-near dissociation). The differential diagnosis includes pineal gland tumours, MS, acute hydrocephalus, angiomas, infections (e.g. toxoplasmosis), strokes (e.g. thalamic stroke or haemorrhage), and rarely tonic-clonic seizure (Clarke et al. 2009).

1.1. Clinical history

A 26 year old previously well Pakistani lady who moved to the UK at the age of 11 presented with a 1 week history of left sided headache and sharp intermittent pains in the occiput. This would progressively worsen through the day and in bright lights. As the headaches became severe, she developed double vision upon looking up and down, associated with nausea. There was no family history of note, or of consanguinity. She had not previously experienced oral or genital ulceration. On examination her visual acuity, colour

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vision, funduscopy, pupillary light reflexes and visual fields were normal. Examination of ocular motility revealed some upgaze limitation, a mild left over right 3 dioptre vertical concomitant tropia (Fig. 1), convergence retraction nystagmus on elevation (video) and convergence insufficiency (video).

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CT head scan demonstrated an enlarged lesion in the region of the pineal gland which was bright on post-contrast (not shown) and a subsequent magnetic resonance imaging (MRI) study (Fig. 2) revealed a T2 hyperintense lesion superiorly on the left side of the mesencephalon in the periaqueductal region extending into the subthalamic region. An inflammatory panel revealed a mildly elevated erythrocyte sedimentation rate (ESR) at 32, but a normal autoantibody screen, serum protein electrophoresis, vitamin B12/B1, folate, angiotensin converting enzyme(ACE), thyroid function, Human immunodeficiency virus (HIV), toxoplasma, quantiferon Tuberculosis (TB) Gold, neuronal antibodies, human chorionic gonadotropin (HCG) and lactate dehydrogenase (LDH). CSF examination was normal aside from a WCC 6 (lymphocytes) per mm^3 and positive oligoclonal bands in the CSF only.

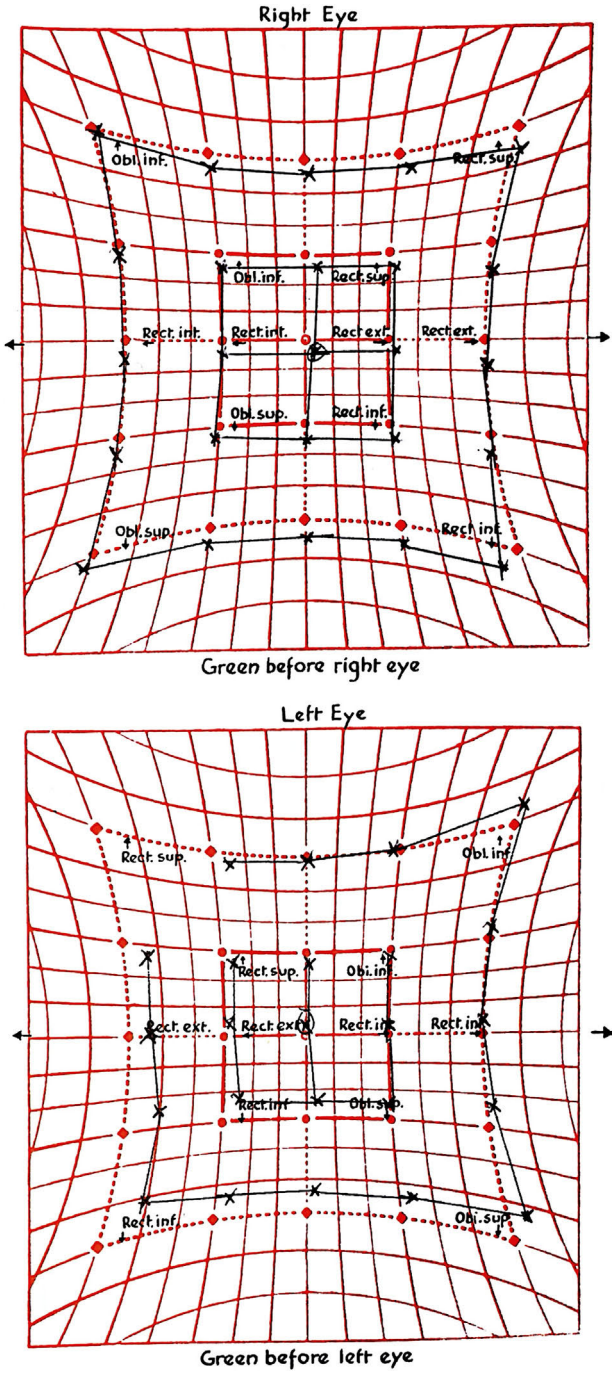

Fig. 1 The Hess chart demonstrates a mild left over right tropia responsible for the patient's vertical diplopia.