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Homonymous hemianopia as presenting symptom of Multiple Sclerosis

Abstract:

Multiple Sclerosis can present with various clinical manifestations depending on the anatomical location of the demyelinating lesions. We report the case of a 48 year old woman who complained of blurred vision. Her examination documented a right homonymous hemianopia which had resulted from an active demyelinating lesion located at the origin of the left optic radiation. A first attack of multiple sclerosis was diagnosed. This case highlights the importance of a workup for demyelinating diseases in the setting of any visual dysfunction.

Introduction

Multiple Sclerosis (MS) clinical manifestations are diverse and depend on the part of the central nervous system involved in the disease.¹ Ophthalmic symptoms are commonly related to optic neuritis while homonymous hemianopia is a rare presentation.² We report the case of a 48 year old woman who presented with right homonymous hemianopia as initial manifestation of MS.

Case report

A 48-year-old woman with diabetes mellitus type 2 on metformin, presented to the ophthalmology clinic with a two-week history of binocular blurred vision. One week prior to presentation, she started seeing black spots in her right visual field. These visual symptoms were worsening gradually. Visual fields revealed a right homonymous hemianopia (Figure 1, a), so she was referred to the neurology department for admission. Patient denied any previous history of headache,

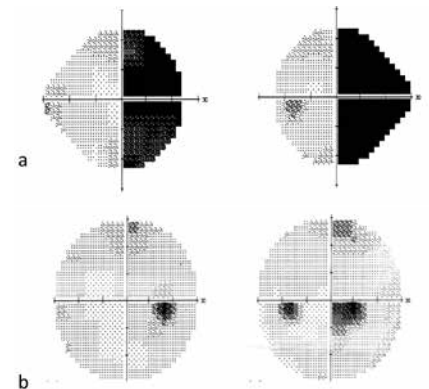
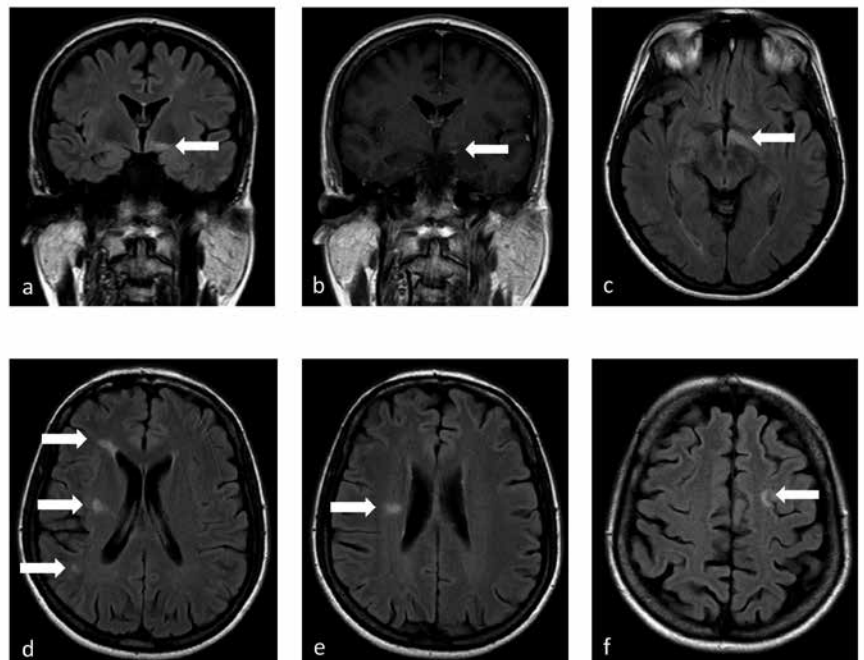


Figure 1 (a): Humphrey visual field showing a complete right homonymous hemianopia at the beginning of the reported symptoms and 1 month later (b), with near complete resolution of the visual field defect.

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Figure 2: (a- arrow) hyperintense lesion on coronal T2 FLAIR sequence at the level of the left fornix, posterior to the left optic tract, showing enhancement after injection of gadolinium (b- arrow). Axial T2 FLAIR sequence showing the same lesion (c- arrow). Multiple hyperintense lesions on T2 FLAIR sequence located in the periventricular, subcortical and juxtacortical areas (d, e, f- arrows).



sensory/motor deficit, visual, speech or gait disturbances. Neurological examination was unrevealing except for a right homonymous hemianopia.

Brain MRI showed multiple lesions that are hyperintense on T2/FLAIR and hypointense on T1 sequences located in the subcortical, periventricular, and right thalamic areas, with one enhancing lesion within the left fornix posterior to the left optic tract (Figure 2). Cervico-dorsal spine MRI was normal. Serological work up including ESR, ANA, and ACE was unremarkable. Cerebrospinal fluid analysis showed 6 white blood cells, a protein level of 42mg/dL, a glucose level of 80mg/dL, positive oligoclonal bands and an IgG index of 1.19.

A diagnosis of relapsing remitting MS was established based on the 2017 McDonald criteria. During her hospital stay, the patient received 1g of intravenous methylprednisolone daily for five consecutive days with partial recovery of her visual deficit. Teriflunomide was initiated at a dose of 14mg daily upon discharge.

Follow up visual field testing one month after discharge revealed partial improvement in the right homonymous hemianopia (Figure 1, b).

Discussion

Multiple sclerosis is a chronic, immune-mediated, demyelinating disorder of the central nervous system.¹ Early diagnosis is important since multiple disease modifying agents are now widely available.³

Common anatomical locations of symptomatic MS lesions include the optic nerve causing monocular visual loss, the spine resulting in limb weakness or sensory anomalies, the brainstem with subsequent double vision, and the cerebellum leading to ataxia.¹ On the other hand, unusual presentations of MS include pain syndromes, cranial nerve abnormalities, movement disorders, paroxysmal symptoms, and homonymous hemianopia,⁴ the latter being reported in only 0.5%–3.5% of cases.² More frequently, homonymous hemianopia result from a stroke (69.6%), trauma (13.6%), tumour (11.3%) or brain surgery (2.4%).⁵

Recovery from homonymous hemianopia secondary to a demyelinating process like MS usually carries a favourable prognosis,⁶ as seen in our case, where near complete recovery of visual field defect was documented as early as one month after discharge. While in cases of stroke, the recovery is usually partial and requires rehabilitative techniques.⁷

This case describes a rare initial presentation of MS with homonymous hemianopia related to an enhancing demyelinating lesion located at the origin of the left optic radiation. It also highlights an important reminder that patients may subjectively report homonymous hemianopia as blurred vision.

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Rachael@acnr.co.uk by 21 January, 2019

DECEMBER

Encephalitis Silver Jubilee PhD Fellowship 2019
Deadline: 31 December 2018
Academic institution sought to host the 2019 Encephalitis Society PhD Fellowship.
T. 01653 692583
E. admin@encephalitis.info
www.encephalitis.info/phd2019

2019

JANUARY

2nd International Conference on Microbiota-Gut-Brain Axis
17–18 January, 2019; Amsterdam, The Netherlands
www.mindmoodmicrobes.org/index.php

17th Annual King's Neuromuscular Symposium
25 January, 2019; London, UK
E. knmsymp@gmail.com
https://bit.ly/2BscMS5

The 2nd Queen Square Multidisciplinary Neuro-Oncology Course: Gliomas /TYA Tumours
31 January, 2019; NHNN, London
E. jeremy.rees@ucl.ac.uk
www.ucl.ac.uk/ion/education/courses/other/neurooncology

FEBRUARY

Symposium: Living with Cognitive Disability 1 February, 2019; UCL, Queen Square, London, UK
https://onlinestore.ucl.ac.uk (search F82 UCLP CNR)
E. cnr@ucl.ac.uk

The Society for Research in Rehabilitation Winter Conference 2019
5 February, 2019; Nottingham, UK
www.srr.org.uk

Dementias 2019
10% discount for ACNR readers, quote: 10ACNR
14–15 February, 2019; London, UK
www.dementiasconference.com
T. 020 7501 6761

MARCH

Neurology 2019
1 March, 2019; Royal College of Physicians of Glasgow, UK
T. Hanne Wylie – 0141 221 6072,
E. Hanne.Wylie@rcpsg.ac.uk

TNA Study Day for Healthcare Professionals 2019
2 March, 2019; Birmingham, UK
E. admin@tna.org.uk

The BNPA Annual Meeting
7–8 March, 2019; London, UK
www.bnpa.org.uk
T. 020 89876111
E. hello@bnpa.org.uk

BPNS Teaching Course on Peripheral Neuropathy
14 March, 2019; Bristol, UK
www.bpns.org.uk
E. secretariat@bpns.org.uk

Hypnotherapy in neurological and other medical clinical settings
15 March, 2019; Stoke-on-Trent, UK
https://www.bscah.com/book-event/hypnosis-in-neurologicalandothermedicalclinicalsettings

MS Foundation MasterClass
20–22 March 2019; Halifax Hall, Sheffield, UK
https://multiplesclerosisacademy.org/events/ms-foundation-masterclass-7-module-1

European NeuroConvention 2019 – In partnership with ACNR
26–27 March 2019; Birmingham, UK
FREE tickets: https://bit.ly/2rqwkjX

Naides 2019
26–27 March 2019; Birmingham, UK
www.naides.co.uk

AD/PD 2019

26–31 March, 2019; Lisbon, Portugal
www.adpd.kenes.com

Sleep Medicine 2019
10% discount for ACNR readers, quote: 10ACNR
28 March, 2019; London, UK
www.mahealthcareevents.co.uk
T. 020 7501 6761

Neurology 2019: leading edge neurology for the practising clinician
28–29 March, 2019; Institute of Education, London, UK
https://bit.ly/25csN3W

APRIL

Biomarkers in Neurodegenerative Diseases
2–5 April, 2019; UCL, Queen Square, London
E. r.paterson@ucl.ac.uk
https://bit.ly/2P5jBS1

The London-Innsbruck Colloquia on Status Epilepticus and Acute Seizures
7–9 April, 2019; London, UK
www.statusepilepticus.eu

International Congress on Neuropathic Pain (NeuPSIG)
9–11 May, 2019; London, UK
www.iasp-pain.org
E. IASPDsk@iasp-pain.org

The 2nd Queen Square Multidisciplinary Neuro-Oncology Course: Benign & Metastatic Tumours
11 April, 2019; NHNN, London
E. jeremy.rees@ucl.ac.uk
www.ucl.ac.uk/ion/education/courses/other/neurooncology

JUNE

Matthew's Friends KetoCollege
4–6 June, 2019; East Grinstead, UK
www.mfclinics.com/keto-college
E. ketocollege@mfclinics.com

MS Intermediate MasterClass
12–14 June 2019; Halifax Hall, Sheffield, UK
https://multiplesclerosisacademy.org/events/ms-intermediate-masterclass-8-module-1/

Parkinson's Academy: Parkinson's Advanced MasterClass
18–20 June 2019; Halifax Hall, Sheffield, UK
https://parkinsonsacademy.co.uk/events/parkinsons-advanced-masterclass-36a-module-1

The 5th EAN: Neuroinflammation – Science. Synergies. Solutions.
29 June – 2 July, 2019
www.ean.org/Oslo2019

JULY

The 2nd Queen Square Multidisciplinary Neuro-Oncology Course: Neurotoxicity, Late effects, Rehabilitation & Ethics
11 July, 2019; NHNN, London
E. jeremy.rees@ucl.ac.uk
www.ucl.ac.uk/ion/education/courses/other/neurooncology

SEPTEMBER

Parkinson's Academy: Parkinson's Foundation Masterclass
19–20 September 2019; Halifax Hall, Sheffield, UK
https://parkinsonsacademy.co.uk/events/parkinsons-foundation-masterclass-37f

OCTOBER

Joint meeting of the Society for Research in Rehabilitation and the British Society of Rehabilitation Medicine
14–15 Oct 2019, 2019; University of Warwick, UK
www.srr.org.uk

NOVEMBER

MS Academy: MSologists MasterClass
6–8 November 2019; Halifax Hall, Sheffield, UK
https://multiplesclerosisacademy.org/events/msologists-masterclass-9-module-1