



# Beyond what you see ... the **hidden** connection

Presentation by : Dina Tarek

MSc, Ainshams university

MRCSEd

Assistant lecturer of ophthalmology Ain shams university



# The story ..



17 years old

Female

Appendicitis

Appendectomy

Then ...

DVT (deep venous thrombosis )



After 3 years ..



Presented with ..

Blurring of vision  
Decreased color vision  
(OS)



Ocular examination :

- Best corrected visual acuity  
OD (6/9).. OS (6/24)
- Fundus free OU
- Relative afferent pupillary  
defect (RAPD)

Chest tightness



Investigated



Pulmonary embolism ..



## Fundus photo



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At this point ..  
What would you think of ?

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# The Qs ..



Why would a 17 years old female have more than one thrombotic attack ?

What are these ocular symptoms ? .. "optic neuritis ?"

Can these two be connected ?

Does it matter if they are connected ?





Any clues ..



## In a brief ..

17 years old

Female

Recurrent  
thrombotic  
attacks

Optic nerve  
affection  
visual  
symptoms

The answers ..



Hospitalization

Why would a **17 years** old **female** have  
more than one **thrombotic** attack?  
**Obesity**  
**congenital coagulopathy**

OCPs

APS

Vasculitis

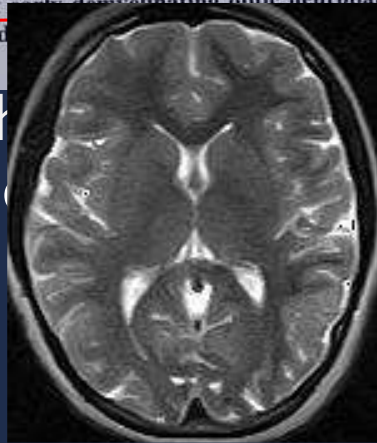


**Conclusion and Recommendations:**

**Right eye:** Within normal anterior (prechiasmatic) visual pathway conduction function.

**Left eye:** Mild anterior (prechiasmatic) visual pathway conduction dysfunction.

The possibility of left optic demyelinating optic neuropathy is valid. MRI (flair protocol), visual field testing, and ophthalmological consultation are important.



What are the symptoms? ..

“ ”

Free ..



Can we **link** any of the **causes** to the **ocular** symptoms?

Yes\*\*





JOURNAL ARTICLE

## Multiple sclerosis, neuropsychiatric lupus and antiphospholipid syndrome: where do we stand?

S. Ferreira , D. P. D'Cruz, G. R. V. Hughes

*Rheumatology*, Volume 44, Issue 4, April 2005, Pages 434–442, <https://doi.org/10.1093/rheumatology/keh532>

**Published:** 18 January 2005 **Article history** ▼



Departments

### Primary Antiphospholipid Syndrome Mimicking Demyelinating Disorders

Panagiotis Ioannidis , M.D., Ph.D., Pantelis Makovis, M.D., George Balamoutsos, M.D., and Dimitris Karacostas, M.D., Ph.D.

**Published Online:** 1 Apr 2014 | <https://doi.org/10.1176/appi.neuropsych.13050109>



## Antiphospholipid antibody syndrome presenting as transverse myelitis

Javid M. Dandoo<sup>a</sup>, Naveed Mohsin<sup>a</sup>, Firdousa Nabi<sup>b</sup>

<sup>a</sup>Department of Internal Medicine, Sher-i-Kashmir Institute of Medical Sciences, <sup>b</sup>Department of Prosthodontics, Government Dental College, Srinagar, Jammu and Kashmir, India

Correspondence to Javid M. Dandoo, MD, Department of Internal Medicine, Sher-i-Kashmir Institute of Medical Sciences, Soura, Srinagar - 190 011, Jammu and Kashmir, India  
Tel: 0194-2411089,  
e-mail: javidmd@gmail.com

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2016, 42:204-206

The antiphospholipid syndrome (APS) is characterized by arterial and/or venous thrombosis and pregnancy morbidity in the presence of anticardiolipin antibodies and/or lupus anticoagulant. APS can occur either as a primary disorder or secondary to a connective tissue disease, most frequently systemic lupus erythematosus. Central nervous system involvement is one of the most prominent clinical manifestations of APS, and includes arterial and venous thrombotic events, psychiatric features, and a variety of other nonthrombotic neurological syndromes. Although the mechanism of neurological involvement in patients with APS is thought to be thrombotic in origin and endothelial dysfunction associated with antiphospholipid antibodies. APS presenting as acute transverse myelitis is very rarely seen with a prevalence rate of 1%. We are describing a foreigner female presenting as acute transverse myelitis which on evaluation proved to be APS induced. So far, very few cases have been reported in literature with APS as etiology.

### Keywords:

antinuclear antibody, antiphospholipid antibody, antiphospholipid antibody syndrome, acute transverse myelitis, cytomegalovirus, herpes simplex virus, low molecular weight heparin

## APS .. Retinal vasospasm (retinal migraine type II)

### Retinal Migraine

Definite retinal migraine, as defined by the ICHD-III beta criteria, is a rare cause of transient monocular visual loss (Box 6.3).

From: *Headache and Migraine Biology and Management*; 2015

experience episodes of amaurosis fugax.<sup>19</sup> The mechanism of visual loss in this second group is less clear, and its relationship to the dynamics of migraine is less certain than for the first group. Many of the patients in the second group have antiphospholipid antibodies or other evidence of autoimmune disturbance. Nevertheless, patients in

# Inherited thrombotic abnormality .. Ischemic symptoms ..

## Optic Ischemia

Konica Singla, Prateek Agarwal

► Author Information and Affiliations

Last Update: July 11, 2022.

Optic ischemia, especially NAION, can mimic optic neuritis as there is sudden vision loss, RAPD,

## Does it matter to have a link ?



# Labs .. Investigations .. In a brief



## Doppler ..

### DOPPLER STUDY OF THE RT LOWER LIMBS ARTERIES AND VEINS

#### THE ARTERIAL SYSTEM:

- The common femoral, Superficial femoral, popliteal, anterior tibial and posterior tibial arteries are seen patent with AVERAGE thickness of 1 MM, yet no evidence of significant stenosis showing triphasic Doppler waveforms and normal PAD.

#### Conclusion:

- ◊ *Normal RT limb arteries with no significant stenosis.*
- CHRONIC recanalized DVT AS DESCRIBED .*

- Competent saphenofemoral junctions.
- No evidence of substantial reflux.

#### Conclusion:

- ◊ *Normal RT limb arteries with no significant stenosis.*
- CHRONIC recanalized DVT AS DESCRIBED .*



# VEP..

Procedure: VEP (DU)

Referral From: Professor Dr/

## **Conclusion and Recommendations:**

**Right eye:** Within normal anterior (prechiasmal) visual pathway conduction function.

**Left eye:** Mild anterior (prechiasmal) visual pathway conduction dysfunction.

**The possibility of left early demyelinating optic neuropathy is valid. MRI (flair protocol), visual field, clinical correlation and neurological consultation are important.**

Delayed latency (compared to the other eye), normal amplitude of P1 and normal trough response to the left eye.

## **Conclusion and Recommendations:**

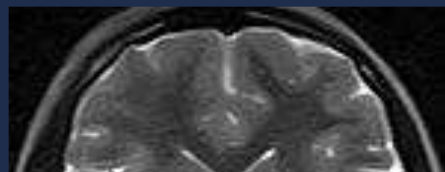
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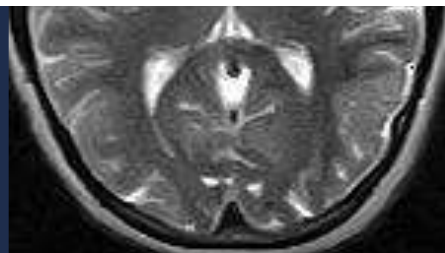
**The possibility of left early demyelinating optic neuropathy is valid. MRI (flair protocol), visual field, clinical correlation and neurological consultation are important.**



# MRI ..



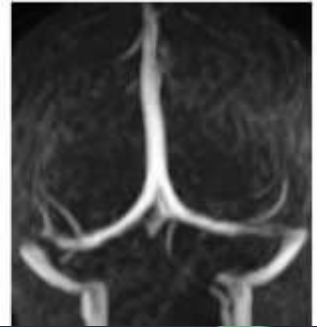
- **Unremarkable MRI brain examination.**



# MRV ..MRA

## IV- MRV of the brain finding:

- *No evidence of dural venous sinus thrombosis.*
- *The dural sinuses are presenting intact flow down to internal jugular veins with no obvious thrombosis.*
- *The midline deep venous system including the internal cerebral veins and vein of Galen appear intact with no obvious displacement.*
- *The epindymal veins and straiothalamic veins appear intact with no signs of ventricular dilatation.*



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## At follow ups ..

Best corrected visual acuity  
 OD (6/36).. OS (6/24)

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# Visual field ..

**Normal** (154.5 - 161 - 168.5) degrees

**Test Administration:**

- Program: 30
- Medical Record: 0000000000
- Age: 4

**Test Parameters:**

- Strategy: 300
- Intensity: 30
- Speed: 0

**Test Statistics:**

- Index of Refraction: 1.00 - 0.00
- **Visual Field:** Normal (within 10% of normal values) (154.5 - 161 - 168.5) degrees

**Impression: right eye:**  
Lower altitudinal field defect of high probability with central sparing.

- Probable cause:** severe high myopia of the increased field defect.
- The increased probability also:** confirms the significance of the field defect.
- Notes:** Considerable defect seen of the lower
- Evidence of field expansion
- Visual field finding:** 100% of 15-minute test area deviates from normal value.

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Scattered paracentral & peripheral scotoma of high probability.

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OD ??



# Anything ?



## Labs ..

ESR (50 1<sup>st</sup>  
hour)  
CRP (6.5)

PT (prolonged)  
aPTT (prolonged)

Kidney functions  
were high..

Other routine  
labs free





■ ■ ■

ESR (50 1<sup>st</sup> hour)  
CRP (6.5)


Low **positive** lupus  
anticoagulants ..

All other APS  
markers were  
**-ve**

Heterozygous  
factor **V leiden**  
mutation

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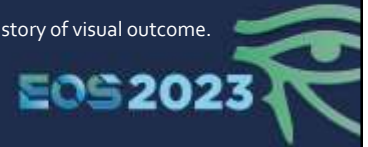
Do you have a **single** diagnosis in mind  
yet ?...

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# THANK YOU

*See you next year*

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