Rainbow Retinopathy

Abdullah S. Swelem
Mazen A. Eldardeery

Case Scenario

A 30 years old male patient presented with a blurry vision of his right eye a few weeks ago. claims that this condition often occurs and he used to use decongestant eye drops for few weeks then his vision returns back to normal.

➢ Past ocular history

Nothing other than repeated blurred vision from time to time

➢ Family history

No one of his family has any chronic eye disease

➢ Medical history

He is smoker ,HCV, and HBV +ve patient and he claims addiction but he quits, and now he is working in Addiction Rehabilitation Center

Ocular Examination

Vision

RT					LT			
+0.25	0.00	0.00	VA	AR	VA	+0.25	-0.25	160

0.6 **UAVA** **0.9+**

COLOR VISION WAS EQUAL OU

Anterior Segment Examination

❖ **Without Mydriasis**

Conjunctiva normal with mild congested superficial BL-VLs
Cornea was clear bilaterally
Anterior chamber was normal quite with No cells bilateral
Pupils were of normal size, reactive and No RAPD
IOP was 17.00 mmHg OU with Applanation tonometry

NAD
NO ABNORMALITY DETECTED

Anterior Segment Examination

❖ **With Dilated Pupils**

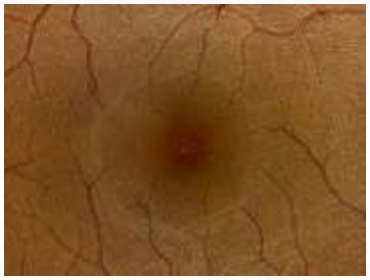
Pupils were dilated almost symmetrically
Lens was clear bilaterally

RT	CYCLO	LT
+0.50 -0.25 140	AR	+0.75 -0.25 157

NAD
NO ABNORMALITY DETECTED

Posterior Segment Examination

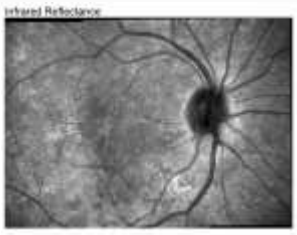
Vitreous was almost clear bilaterally
Optic disc was normal bilaterally
Macula Showing Yellow foveal spot

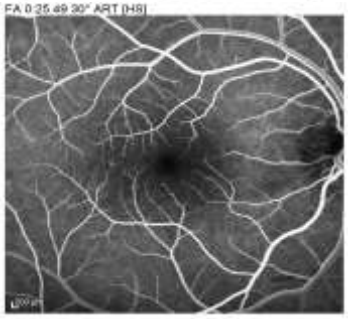


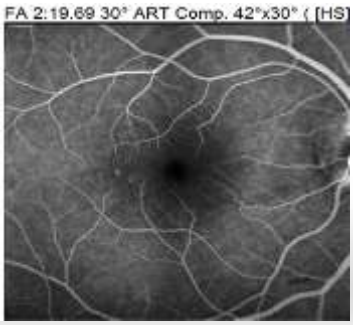
Three days later

Fluorescein Angiography & OCT

Fluorescein Angiography

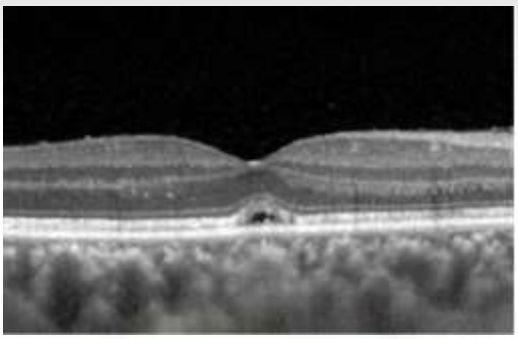






OCT findings

- Sub foveal IS/OS layer disruption
- Otherwise a normal OCT Layers

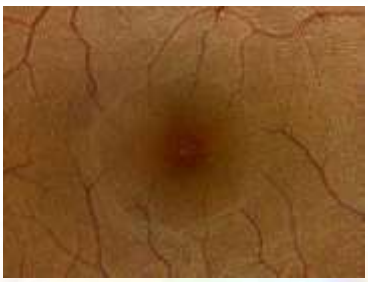


A lot of Tattoos, big scar on his face and patient history drove me to ask for some laboratory investigations mainly to role out HIV also to get some time to search in literature and to ask about this case

Yellow foveal spot

Outer retinal disruption

- Photic maculopathy (e.g. solar retinopathy and laser retinopathy).
- Vitreomacular traction syndrome.
- Macular or lamellar hole.
- Adult onset foveomacular vitelliform dystrophy.
- Popper usage.
- Juxtafoveal telangiectasis.
- Tamoxifen retinopathy.



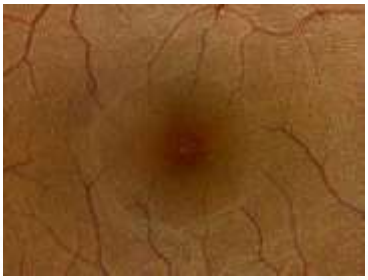
Reviewing the patient's Data

- Young male
- Frequent utilizer of recreational drugs
- HCV , HBV +ve (Tattooed)
- Borderline HIV
- Yellow foveal spot
- Recurrent bilateral DOV (return back to normal)
- FA insignificant
- OCT

Yellow foveal spot

DD

- Photic maculopathy (e.g. solar retinopathy and laser retinopathy).
- Vitreomacular traction syndrome.
- Macular or lamellar hole.
- Adult onset foveomacular vitelliform dystrophy.
- **Popper usage.**
- Juxtafoveal telangiectasis.
- Tamoxifen retinopathy.



What's popper ?

- Slang term referring to recreational substances of abuse belonging to the alkyl nitrite family
- It's an Outlandish expression primarily appeared in 2007
- Change in isobutyl nitrite to isopropyl nitrite
- A POP (named after)

- Inhalation of the fumes from these volatile (NO) donors provide a brief sense of euphoria and sexual arousal (anal sphincter relaxation)
- Marketed for alternative uses such as 'room deodorizer' and 'video head cleaners'

Why It's Popper's Retinopathy ??

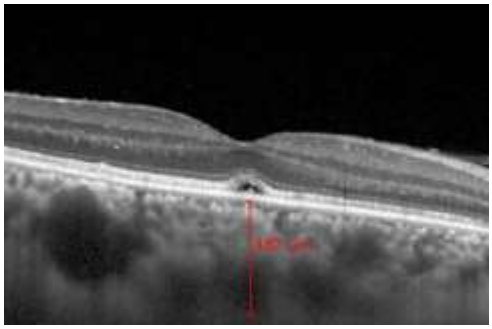
Pathogenesis

Two mechanisms :

- Similar to photic injury, with nitric oxide increasing photosensitivity.
- ***Vignal-Clermont*** said 'nitric oxide is a potent vasodilator postulated that acute changes in ocular perfusion pressure may precipitate this retinal injury'.

OCT Findings

- Choroidal thickness is know to be thickened in this case
- Normalised study based range (250 – 350)



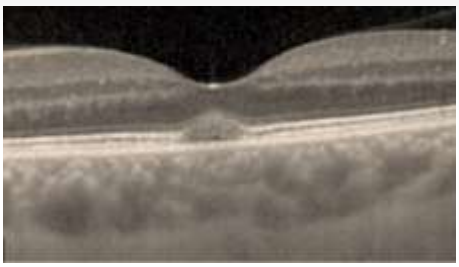
What's with and what's against

With:

- Patient's past medical history
- Return back to normal VA in one month (0.9) **without treatment.**
- OCT findings

Against:

- Unilaterality of the condition **(nevertheless literature showed unilateral cases of P.R)**
- Direct quest about the utilization of Popper. (Cultural Issues)



Take home Message

- If the diagnosis is unknown, please DON'T give cortisone.
- Always wait and see in unconfirmed diagnosis.
- General Examination and Past Medical history always reflect an ophthalmological point.