Vit A deficiency oculopathy in a patient with normal serum levels of Vit A

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All speakers have no conflict of interest

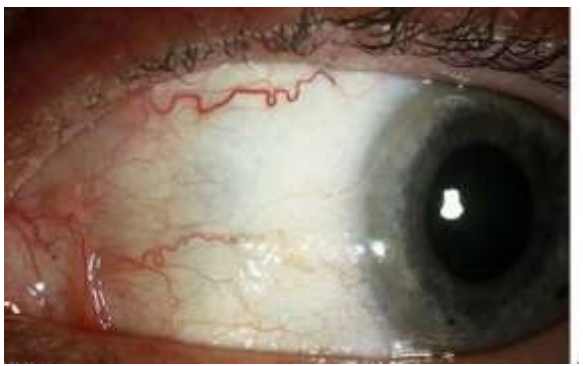
- Patient was presented complaining for dry eyes and difficulty seeing dyring nighttime.

PMH: Crohn disease and IGG 4 sclerotic cholangiopathy

- Clinical examination: VA 10/10 -2.00 sph bilateral

- Anterior segment: Bilateral punctate epitheliopathy, Bitot spots

- IOP 12 mmHg bilateral

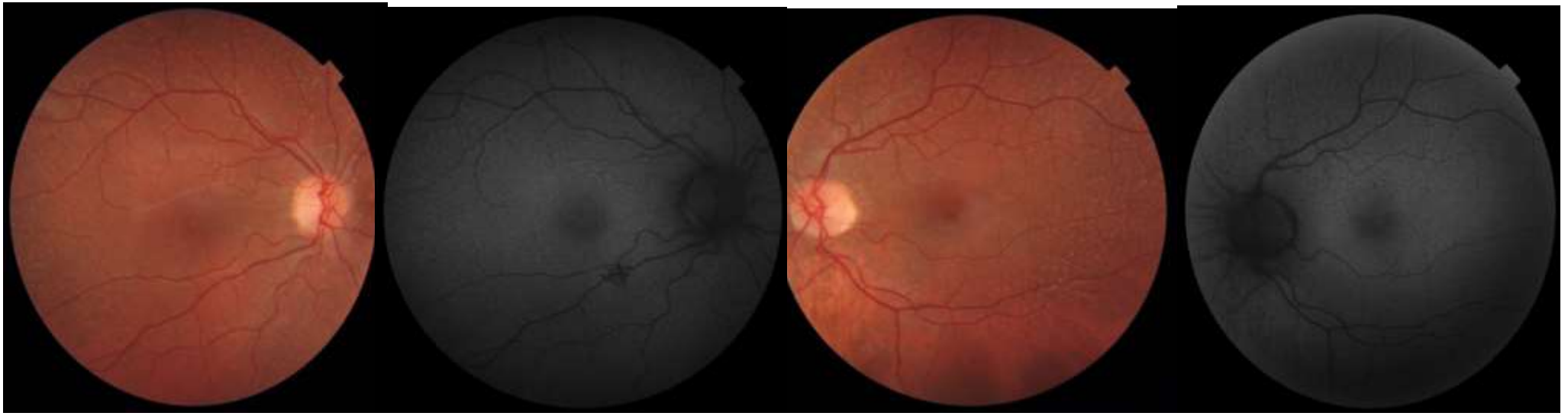


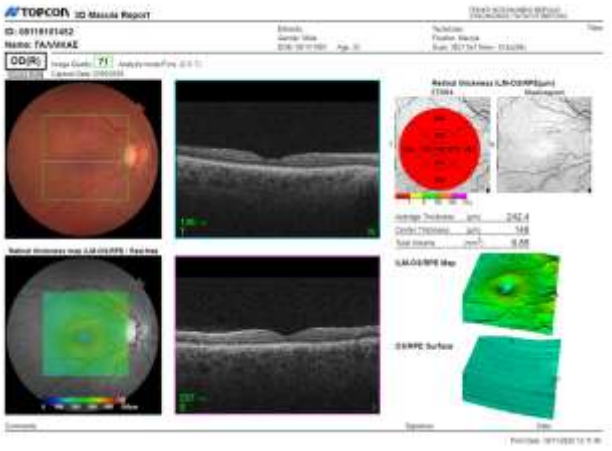
- Fundus examination: Peripheral yellowish - -white flecks bilateral.

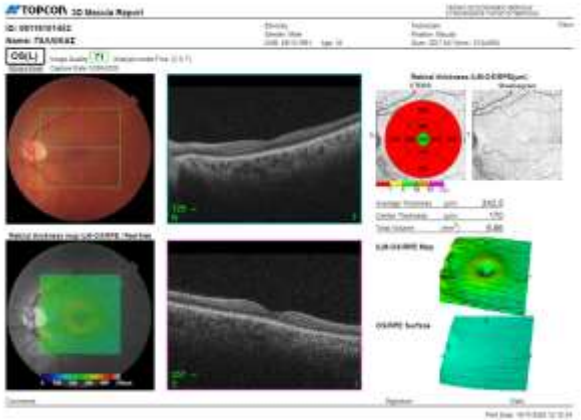
OCT, color images and autofluorescence images were performed.

- Lab examination revealed normal serum levels of Vit A (0.44µg/L, NR:0.3-0.7)

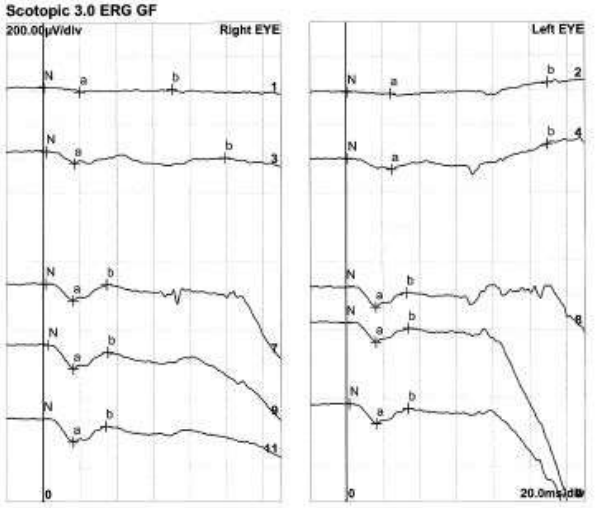
Due to high suspicion of Vit A deficiency a FF ERG was performed.

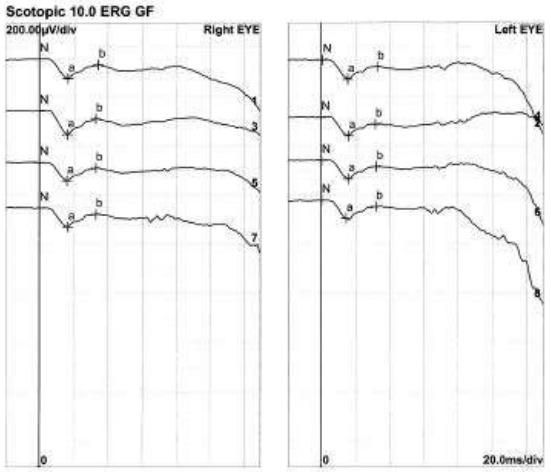


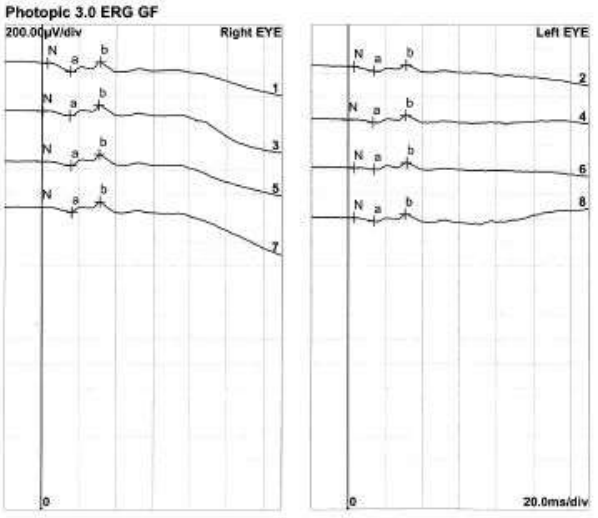




Fleck Retinopathy







In the scotopic electroretinogram where exclusively the activity of the rods is recorded (Rod specific, DA 0.01), the β-wave is pathological and symmetrical bilaterally at approximately 10% of the normal. In the bright flash (Bright flash, DA 3), the α-wave has a magnitude of 140µV bilaterally without any particular delay and the β-wave is 100-110µV, with electronegative morphology In the photopic electroretinogram, both at the frequency of 2Hz (Single flash, LA 3)and at that of 30Hz (LA 3 30) the signal is marginally normal both in time and in magnitude symmetrically and bilaterally.CONCLUSION: Based on the electrophysiological study, the findings are compatible with severe dysfunction at the level of photoreceptors, mainly rods but also bipolar cells, while the function of cones appears marginally normal and is consistent with **vitamin A deficiency.**

FF ERG confirmed the diagnosis of Vit A deficiency. Patient was referred to a GI specialist for further treatment.

Take away message:

Laboratory tests might be misleading in VAD. FF ERG is more reliable for diagnosing Vit A deficiency than serum levels, especially in patients with gastrointestinal disorders.