

Co-existing retinal pathologies: Diagnostic challenges in diabetic retinopathy

Case

A 67-year-old male of Middle-Eastern ethnicity presented with complaints of defective vision in both eyes for the past 1 year. Examination revealed a best-corrected visual acuity of 20/100 in the right eye (OD) and 20/70 in the left eye (OS). The patient was diagnosed with type 2 diabetes mellitus more than 10 years ago and had high glycated hemoglobin (Hb1AC: 10.2%). The patient was seen elsewhere and diagnosed with moderate nonproliferative diabetic retinopathy (NPDR) with perifoveal exudation in both eyes. The patient has renal failure and is on dialysis three times a week, making him an unsuitable candidate for fluorescein angiography. Fundus examination revealed a hypopigmented area in the macula of OD.

What is your next step?

- Perform macular laser to the hypopigmented area
- Proceed with anti-vascular endothelial growth factor (anti-VEGF) injections directly
- Additional imaging including optical coherence tomography (OCT) and OCT angiography (OCTA)
- Advise metabolic control and review in 3 months.

Correct answer

- Additional imaging, including optical coherence tomography (OCT) and OCT angiography (OCTA).

Findings

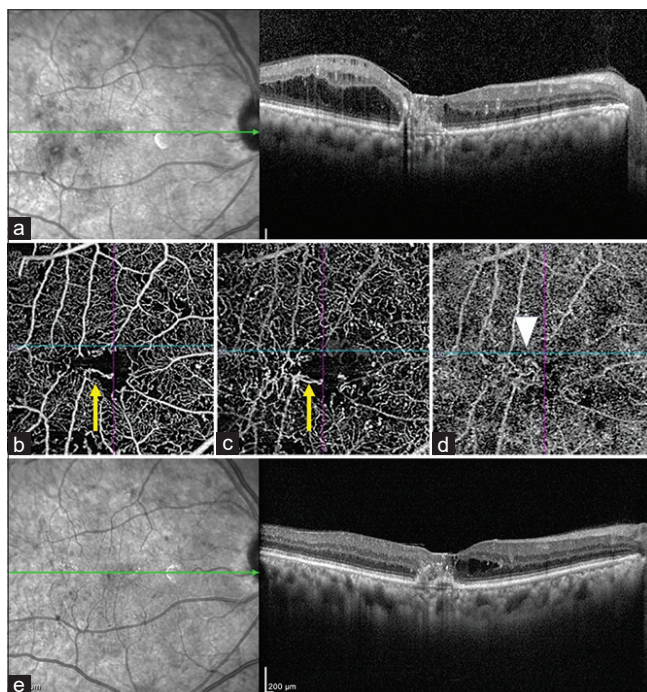


Figure 1: The figure shows optical coherence tomography (OCT) at baseline (a). There is significant intraretinal fluid and a temporal parafoveal hyperreflective lesion in the outer retina. There is mild atrophy of the outer retinal layers in this region. The OCT angiography (OCTA) superficial capillary plexus (SCP) shows a right-angled venule (yellow arrow) and flow void areas in the perifoveal region (b). The deep capillary plexus (DCP) also shows the right-angled venule with telangiectatic vessels in the perifoveal region (c). The outer retina to choriocapillaris (ORCC) slab (d) shows distinct subretinal neovascularization (white arrowhead). (e) OCT of the right eye one month after aflibercept injection shows a reduction in the intraretinal fluid and a decrease in the outer retinal hyper-reflectivity. There is mild atrophy of the retinal layers suggestive of macular telangiectasia

Diagnosis

The diagnosis was moderate NPDR with type 2 macular telangiectasia (MacTel) stage 5 in OD.

Management

The patient was advised therapy with intravitreal injections of anti-VEGF (aflibercept 2 mg/0.1 ml) for the subretinal neovascularization and intraretinal fluid. The patient experienced subjective improvement of vision (improved to 20/70 from 20/100 in OD). There was decrease in the intraretinal fluid at 1 month after the injection [Fig. 1].

Discussion

MacTel is characterized by telangiectatic retinal vessels with retinal thinning, atrophy of the Muller cells, and progressive photoreceptor damage.^[1] The pathological changes in MacTel begin juxtafoveally and can be complicated by the development of subretinal neovascularization, leading to severely decreased vision. There is an overall higher incidence of type 2 MacTel in patients with diabetes mellitus.^[1,2] In addition, certain histopathological changes are common between the two entities.^[3] Yannuzzi *et al.*^[1] reported that 19.2% of patients with MacTel have mellitus. Studies from India by Shukla *et al.*^[2] reported a much higher incidence of diabetes (59%), whereas Jhingan *et al.*^[4] reported an incidence of 29%. However, the occurrence of subretinal neovascularization in MacTel along with NPDR is very rare (less than 3% cases).^[1,2,4,5] Therefore, these patients require meticulous retinal imaging when subretinal neovascularization is suspected.^[6] Our case highlights the importance of OCT and OCTA in establishing the accurate diagnosis and initiating therapy in our patient.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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