

# Telangiectatic Capillaries in Persistent Diabetic Macular Edema : Case Report

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## INTRODUCTION

Diabetic macular edema (DME) is a common cause of moderate vision loss among patients with diabetic retinopathy. The pathogenesis of DME is due to diabetic blood–retinal barrier breakdown and intraretinal fluid leakage from microaneurysms (MAs).<sup>1</sup>

The spectrum of retinal MAs is complex, also comprising large microvascular abnormalities. Castro-Farías et al recently proposed the name ‘telangiectatic capillaries’ (TelCaps) to describe capillary abnormalities >150  $\mu\text{m}$ .<sup>2</sup>

In recent years, intravitreal injection of anti-vascular endothelial growth factor (VEGF) has contributed to the significant improvement in visual outcome for patients with DME, becoming the first-line treatment. However, macular edema persists in a significant number of patients despite repeated intravitreal injections.<sup>1</sup> A pilot study

reported that leakage from TelCaps was associated with persistent DME refractory to intravitreal treatment.<sup>3,4</sup>

A hallmark of TelCaps is that they are better seen by indocyanine green angiography (ICGA) than by fluorescein angiography (FA).<sup>5</sup> Some studies have shown that ICGA-guided direct focal laser photocoagulation for TelCaps improves the visual and anatomical outcomes of DME.<sup>3,5</sup> In real-world clinical practice, performing ICGA in all persistent DME patients can be difficult because of its invasive and time-consuming nature. It has been shown that the combination of infrared (IR) images and optical coherence tomography (OCT) can diagnose most TelCaps.<sup>2</sup>

This is a TelCaps case report, diagnosed and treated based on a multimodal analysis with IR images, OCT, OCT angiography (OCTA), and microperimetry.

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## CASE

A 48 years old, male patient, presented with progressive low visual acuity (VA) in the left eye (OS), more importantly in the central vision, of 6 months duration. He had been a type 1 diabetic patient for 17 years, with regular treatment with insulin, keeping a glycated hemoglobin of 6.5%. There was no history of other systemic illness.

One year before this present complaint, he had already noticed a central scotoma in the same eye with 20/20 VA; and had no complaints regarding the fellow eye, which also presented 20/20 visual acuity . During this period he was diagnosed with central DME and treated with intraocular injection of Aflibercept. There was no reduction of the intraretinal fluid nor did the patient notice any improvement of sight. Months later he came back due to worsening of his symptoms in the OS.

On examination, he presented VA of 20/20 and 20/30, respectively right and left eye. IR images, OCT B scan and OCT angiography (OCTA) were performed, identifying TelCaps in the corresponding areas to the scotomas.

The IR reflectance image (figure 1) reveals characteristic hyperreflectivity within hyporeflective perifoveal lesion. OCT structural (figure 2) shows a hyporeflective ovoid lesion surrounded by a hyperreflective TelCap wall and intraretinal cysts.

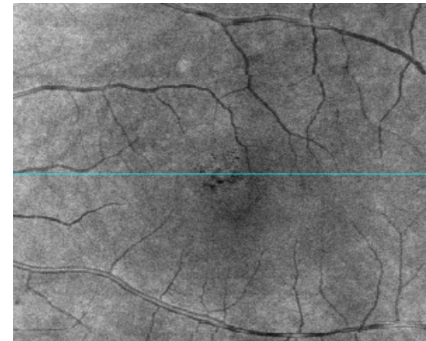


Figure 1

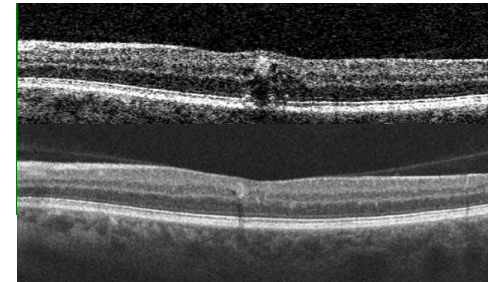


Figure 2

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In the OCTA (figure 3) telangiectatic capillaries can be seen in the superficial plexus in the perifoveal region. Microperimetry test was also performed and revealed reduced sensitivity in the corresponding area. Focal laser therapy with low intensity was then performed guided by this multimodal analysis.

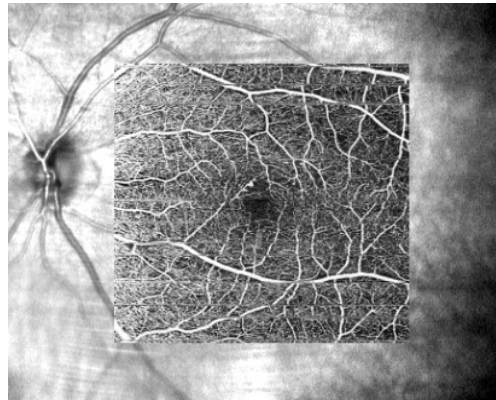


Figure 3

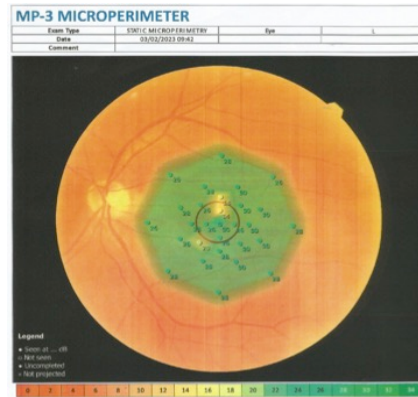


Figure 4

## DISCUSSION

We must be cautious with refractory DME to intravitreal treatments as it may be due to TelCaps.<sup>2,4</sup> IR images and OCT structural can diagnose most TelCaps and change the way we manage each case.<sup>2</sup> The detection of TelCaps by OCTA alone is not sufficient because of the decreased blood flow due to the vessel wall thickening and intraluminal material accumulation.<sup>4</sup> The efficacy of focal laser photocoagulation of TelCaps in treating DME is still a matter of study.<sup>3,5</sup>

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## CONCLUSION

TelCaps are an important cause of persistent DME. This differential diagnosis changes the way we manage the DME. IR imaging in conjunction with structural OCT B scan may identify most of the TelCaps and also target focal laser photocoagulation which can improve functional and anatomical outcomes in patients with persistent DME.

## REFERENCES

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