

Full Thickness Macular Hole Following Intravitreal Bevacizumab for A Vascularised Pigment Epithelial Detachment

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Abstract

The occurrence of a full thickness macular hole over an underlying pigment epithelial detachment is a rare entity. It may be the presenting feature or may develop following anti-vascular endothelial growth factor (VEGF) therapy for a vascularised PED. We describe the formation of a FTMH following three monthly intravitreal Bevacizumab injections for a large vascularised PED that was accompanied by flattening of the PED.

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Keywords: Full Thickness Macular Hole; Pigment Epithelial Detachment; Intravitreal Bevacizumab; Spectral Domain Optical Coherence Tomography

Introduction

A 66 year old male presented with sudden diminution of vision in his left eye since a week. Best corrected visual acuity (BCVA) was 20/20 OD and 20/200 OS. Anterior segments were unremarkable bilaterally. Fundus examination revealed an orange elevation at the left macula with subretinal haemorrhages inferior to it and around the disc (Figure 1a). The right eye fundus showed no abnormality. Spectral domain optical coherence tomography (SD-OCT) demonstrated a subfoveal retinal pigment epithelial detachment (PED) with subretinal fluid (SRF) and subretinal haemorrhage inferiorly (Figure 1b). Fundus fluorescein angiography showed leakage superior and temporal to the disc in addition to pooling of dye in the PED and

blocked fluorescence due to the haemorrhage. The patient underwent intravitreal Bevacizumab (1.25 mg/0.05ml) injection after written informed consent regarding the off-label nature. After the second injection, BCVA improved to 20/80. There was resolution of the hemorrhages (Figure 1c) though the PED persisted and increased in height (Figure 1d). A month following the third injection, BCVA was noted to be 20/40. The left fundus showed a full thickness macular hole (FTMH) (Figure 1e), which was confirmed on SD-OCT, in addition to flattening of the PED, resolution of SRF and subfoveal scarring (Figure 1f). The patient was advised vitrectomy under guarded visual prognosis, however he declined. The clinical pictures remained stable till 6 months follow up and no further injections were administered.

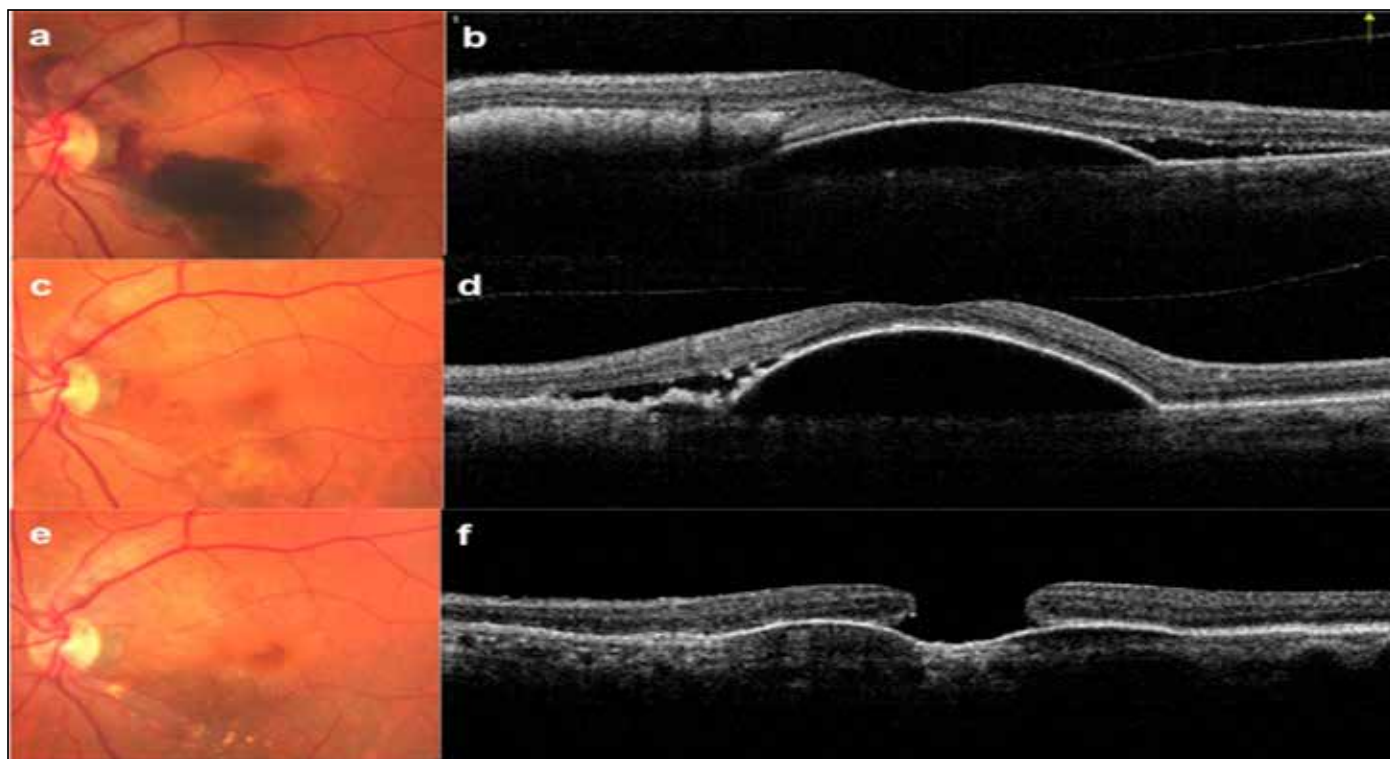


Figure 1 : (a) Fundus photograph of the left eye at presentation showing subretinal hemorrhages temporal to the disc and an orangish elevation at the macula (b) Spectral domain optical coherence tomography revealed a subfoveal retinal pigment epithelial detachment (PED) with subretinal fluid (SRF) and subretinal hemorrhage inferiorly (c) Following two intravitreal Bevacizumab injections, the hemorrhages resolved though the PED persisted (d) SD-OCT showed increase in height of the PED with presence of SRF (e) A month after the third intravitreal Bevacizumab injection, a full thickness macular hole (FTMH) was observed (f) SD-OCT confirmed the presence of a FTMH and revealed flattening of the PED with subfoveal scarring

Discussion

The concomitant occurrence of a FTMH with an underlying PED is uncommon. It has been reported both at presentation^{1,2} and following intravitreal anti-vascular endothelial growth factor (VEGF) therapy.³ In the former situation, increased mechanical forces within the retina caused by stretching of a large PED could contribute to FTMH development, though it is also possible that the two conditions are unrelated. In the latter situation, intravitreal injections might increase vitreoretinal traction at the fovea by vitreous syneresis, globe deformation during needle insertion and vitreous incarceration at the injection site. Focal traction on the retinal surface along with contraction of the neovascular membrane caused by the anti-VEGF agent may lead to formation of a FTMH. It has been hypothesized that an underlying PED might provide an additional pushing or stretching mechanism that facilitates retinal dehiscence.⁴ However, in the above case, formation of FTMH a month after 3 intravitreal Bevacizumab injections was accompanied by a flattening of the PED in the absence of a retinal pigment epithelial (RPE) tear, which has not been observed in the previously reported cases.⁵

To conclude, the potential for FTMH development should be considered in patients undergoing anti-VEGF therapy especially if there is vitreofoveal adhesion and a significant underlying PED.

References

1. Inoue M, Tan A, Slakter JS, Chang S, Kadonosono K, Yannuzzi LA. Full-thickness macular hole combined with pigment epithelial detachment using multimodal imaging. *Retin Cases Brief Rep* 2017; 11: 369-372.
2. Cazabon S. Full-thickness macular hole formation associated with pigment epithelial detachment: link or coincidence?. *Int Ophthalmol* 2010; 30: 739-742.
3. Grigoropoulos V, Emfietzoglou J, Nikolaidis P, Theodossiadis G, Theodossiadis P. Full-thickness macular hole after intravitreal injection of ranibizumab in a patient with retinal pigment epithelium detachment and tear. *Eur J Ophthalmol* 2010; 20: 469-472.
4. Rajji VR, Elliott D, Sadda SR. Macular hole overlying pigment epithelial detachment after intravitreal injection with ranibizumab. *Retin Cases Brief Rep* 2013; 7: 91-94.
5. Clemens CR, Holz FG, Meyer CH. Macular hole formation in the presence of a pigment epithelial detachment after three consecutive intravitreal anti-vascular endothelial growth factor injections. *J Ocul Pharmacol Ther* 2010; 26: 297-299.

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