

## Letter to the editor

### Optical coherence tomography in diabetic macular edema: sub-retinal fluid pattern and related risk factors

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Dear Editor

We read with interest the article by Ahmadpour-Baghdadabad M et al (2013) in which the authors studied the association of various patterns of diabetic macular edema (DME) with the risk factors of DME based on the optical coherence tomography (OCT) findings.

In a retrospective cross-sectional study, we too evaluated the systemic risk factors associated with sub-retinal fluid (SRF) pattern of DME. We compared 37 eyes with SRF pattern of DME (designated cases) versus 30 eyes having DME (sponge like retinal swelling or cystoid macular edema) without SRF (designated controls) on spectral domain-OCT. We too found that the SRF pattern was more common in males than in females (84.8 % of cases were males versus 66.7 % of controls). We did not find an association of HbA1C (mean HbA1C of 6.73 in cases versus 6.71 in controls,  $p = 0.859$ ) and anemia (mean Hb of 10.71 in cases versus 11.77 in controls,  $p = 0.118$ ) with the SRF pattern of DME.

There was no significant difference between the presence of hypertension among cases and controls (diagnosis of hypertension found in 72.7 % of cases and in 66.7 % of controls,  $p = 0.634$ ). However, we did find a positive association between high systolic (SBP) and diastolic blood pressures (DBP) and the SRF pattern of DME. On measuring the levels of blood pressure in all cases and controls, both the SBP (mean SBP 147.84 in cases versus 141.0 in controls,  $p = 0.039$ ) and the DBP (mean DBP 85.24 in cases versus 81.47 in controls,  $p = 0.043$ ) were found to be raised in patients with SRF pattern of DME in comparison to DME without SRF. The reason for this can be unreported hypertension in the cases or higher uncontrolled blood pressures in the hypertensive cases than in the hypertensive controls. The occurrence of SRF in DME can be secondary to excessive leakage in the retina or to a poorly functioning retinal pigment epithelium (RPE). Raised blood pressure can lead to increased retinal leakage as well as ischemic damage to the RPE. We reported the presence of outer retinal communications, seen as defects in the outer border of the elevated retina in eyes with SRF pattern of DME (Gupta A et al, 2013). These defects may represent a path for the flow of fluid and proteins from intra-retinal cysts or from the outer layers of the edematous retina into the sub-retinal space.

In conclusion, we congratulate Ahmadpour-Baghdadabad M et al on their study and support their findings. We also recommend measuring the SBP and DBP in subjects with SRF pattern of DME besides evaluating a history of hypertension. It might be helpful to provide a more aggressive control of blood pressures in subjects with the SRF type of DME than in DME without SRF.



## References

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