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Long term follow-up of patients affected by dome shaped macula associated with serous detachment of the foveal neuroepithelium and treated with photodynamic therapy

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Introduction & Objectives: Foveal serous retinal detachment (SRD) in patients with dome shaped macula (DSM) represents the most frequent reason of impaired vision and referral to eye care units. The aim of this study is to investigate the role of photodynamic therapy (PDT) as a therapeutic modality in myopic patients affected by DSM associated with foveal SRD.

Methods: The study was designed as a retrospective interventional case series. The medical records of 18 consecutive myopic patients (20 eyes) with DSM associated with foveal SRD and treated with PDT were retrospectively reviewed. Best corrected visual acuity (BCVA), refractive error, fluorescein angiography (FA), indocyanine green angiography (ICGA) and enhanced depth imaging (EDI) optical coherence tomography (OCT) findings were evaluated. Visual gain and loss were considered as increasing or decreasing of two or more lines of best corrected visual acuity (BCVA) respectively and eyes with fluid resolution were considered as responsive to PDT.

Results: All eyes underwent several PDT treatments with a median of 3 (1st, 3rd quartiles 2; 3, 75; range: 1 to 7) and with a median follow-up time of 22 months (1st, 3rd quartiles 12; 40; range 4 to 55). At the last follow-up 7 eyes (35%) showed complete resolution of the foveal SRD being considered as responsive to PDT. At last follow-up visit 5 eyes (25%) showed an increased BCVA, 13 eyes (65%) maintained a stable BCVA, while 2 eyes (10%) had a decrease in their BCVA. Statistical analysis showed that BCVA improvement was significantly higher in eyes responding to PDT (p=0.027). The median baseline hypocyanescent macular area observed during late ICGA frames resulted significantly lower [2.6 mm^2 (1st, 3rd quartiles 2.3; 2.8 mm^2; range 1.61-3.28 mm^2)] in the group of patients that responded to PDT and had an increase of ≥2 Snellen lines in BCVA versus the remaining ones that were considered non-responders [8.1 mm^2 (1°; 3° quartile 5.1; 10.2 mm^2; range 4.50-14.26 mm^2)] (p<0.001).

Conclusions: Our data suggest that myopic eyes associated with DSM and foveal SRD might be responsive to PDT showing total resolution of fluid accumulation and positive BCVA changes, if baseline ICGA findings show evidence of a limited hypocyanescent macular area.

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