**SEMINAR**

Retinal vessels within the retinal nerve fiber layer: optical coherence tomography angiography without retinal dyes

The aim of the presentation is to investigate the contribution of vascular volume calculated by optical coherence tomography angiography (OCTA) to the measurement of peripapillary retinal nerve fibre layer (RNFL) thickness. We used OCTA scans to build volumetric maps of the RNFL angiograms by thresholding the decorrelation images and summing the number of white pixels along the z-axis at each location. We used these maps to calculate the contribution of the vascular tissue to the RNFL thickness. We analysed 51 eyes from 36 subjects. The mean RNFL volume calculated on the peripapillary region was 0.607 ± 0.045 mm3 and the mean vessel volume was 0.217 ± 0.035 mm3, with a mean vessel/total RNFL ratio of $35.627\%\pm3.942\%$. When evaluated in the peripapillary circular section, the total contribution of the vascular tissue to the global RNFL thickness was $29.071\%\pm3.945\%$. The superior and inferior sectors showed the highest percentage of vascular tissue within the RNFL circular profile (31.369% and 34.788% respectively). We found that the vascular contribution to the RNFL thickness is $29.07\pm3.945\%$. This is much higher than what has been reported from calculations made on the structural OCT alone. We conclude that evaluation of the vascular tissue contribution to the RNFL thickness with OCTA might be useful when performing precise quantification of the neuronal tissue.
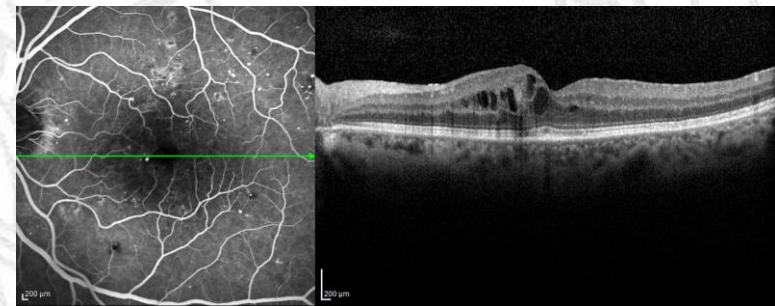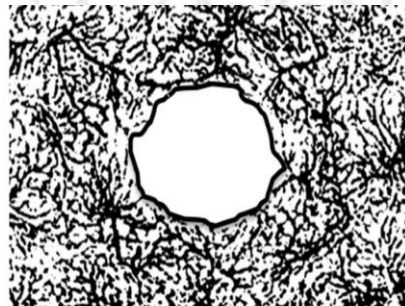
Prof. Mario Romano
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October 22nd, 10:00am (sharp)
DICAr MS1 Meeting Room
Via Ferrata, 3 – Pavia