



Endothelial Caspase-9 Mediates Inflammatory and Vision Function Changes in Retinal Vascular Injury

Crystal Colón Ortiz, Ph.D. - Columbia University Medical Center

Questions & Answers from the Presentation

Through what mechanism you think endothelial cells are mediating astroglial cl-caspase-6?

There are several pathways that could be involved, some can be through endothelial released vesicles. Another mechanism can be through cell intrinsic activation of caspase-9 due to the hypoxic environment.

To what extent the variability of the model affects the results?

While we tried to be consistent on the rate of veins occluded and excluded eyes that developed ophthalmological pathology non-associated to the vein occluded, we still observed that the fraction of veins occluded influenced visual contrast sensitivity and capillary ischemia.

The multiple GFAP bands, how can we prove that they are cleaved GFAP fragments and not GFAP protein isoforms?

It has been previously shown that the GFAP 24kDa band is the specific caspase-6 cl-GFAP cleavage product.

Which cells you think contribute the most to the release of inflammatory cytokines?

Previous studies using this RVO model have tested the inflammatory response in the context of microglial ablation and have demonstrated that there is a significant reduction of inflammatory cytokines. Suggesting that microglial cells are primary source of inflammatory cytokines in this model.

Your RVO model is a relatively local injury of the retina. How far does the injury spread? Often, the optomotor reflex is not influenced very much by local injury.

By 4 hours post injury we observed that endothelial cl-caspase-9 sparse throughout the retina relatively evenly regardless of injury or occlusion site.

Regarding the optomotor measurements - how consistent are the test results?

We have observed that RVO injury leads to contrast sensitivity decline at early timepoints in several mouse lines besides the one used in this study. While we observed the same result even when different investigators performed the behavioral test, I encourage other RVO labs to also test this behavior.