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TUNEL DETECTION OF APOPTOSIS IN HYALOID VASCULAR REGRESSION IN THE NEWBORN RAT. *A Ocon and I Evans**, Department of Biological Sciences. ajo4274@rit.edu, imesbi@rit.edu.

Apoptosis is a form of cell death involved in many biological processes. We studied the regression of the hyaloid vascular system in the newborn rat by labeling apoptotic cells in remodeled blood vessels. Many signaling events and various factors coordinate apoptosis which results in apoptotic cells having broken DNA strands with free 3'-OH termini. The TUNEL assay chemically labels the free 3'-OH termini in situ with biotin-labeled nucleotides that are readily detectable using a streptavidin-horseradish peroxidase conjugate. DAB substrate reacts with this conjugate to form a brown color at the site of apoptosis. We have carried out a longitudinal study measuring the amounts of apoptosis in various parts of the hyaloid vascular system during postnatal days 1-18. This research investigates the role of apoptosis in blood vessel regression. Future studies will expand our knowledge on angiogenesis and regression and help elucidate the mechanisms involved in these processes.