

**EXPRESSION OF ADRENOMEDULLIN MRNA IN HUMAN FETAL LUNG****C. Ramos**<sup>1</sup>, E. Johnson<sup>1</sup>, R. Ohls<sup>1</sup>, L. Gonzalez-Bosc<sup>2</sup><sup>1</sup>*Pediatrics and Neonatology*, <sup>2</sup>*Department of Cell Biology and Physiology, School of Medicine, University of New Mexico, Albuquerque, NM, USA*

**Background and aims:** Adrenomedullin is a vasodilator peptide produced by endothelial and smooth muscle cells in the systemic and pulmonary circulation. It promotes angiogenesis and alveolar growth and has protective effects in the cardiovascular and respiratory systems. The role of adrenomedullin in human lung vascular development is not known. Our aim was to test the hypothesis that adrenomedullin mRNA is expressed during mid-gestation in the human fetal lung, and that adrenomedullin mRNA expression in the human fetal lung increases with advancing gestational age.

**Methods:** Human fetal lung tissue was collected from 10 to 24 weeks of gestation following elective termination (N: 69). Gestational age was estimated using fetal foot length. Adrenomedullin gene expression was measured with quantitative RT-PCR, normalized to GAPDH. The expression of the adrenomedullin receptor: calcitonin receptor-like receptor (CRLR) and of the receptor activity modifying proteins (RAMP) 2 and 3 were also measured. Statistical analysis was performed using Spearman non-parametric correlation coefficient.

**Results:** Adrenomedullin, CRLR, RAMP2 and RAMP3 were expressed in the mid-gestation human fetal lung. The expression of adrenomedullin, CRLR and RAMP2 increased with increasing gestational age ( $p < 0.05$ ). Conversely, the expression of RAMP3 decreased with advancing gestational age.

**Conclusion:** Adrenomedullin is expressed in the mid-gestation human fetal lung and its expression increased with increasing gestational age, suggesting a role for adrenomedullin in human lung development. The expression of RAMP3 decreased with increasing gestational age, requiring further study, we speculate that RAMP3 might regulate adrenomedullin activity in the human fetal lung.