Study finds antioxidant deficiency linked to pulmonary hypertension

September 23 2008

A recent study shows that a loss of antioxidants in the endothelial cells that line blood vessels in the lungs contributes to the loss of vasodilator effects and, ultimately, to the development of pulmonary hypertension. The findings appear in *Clinical and Translational Science*.

The study, led by Serpil Erzurum of the Cleveland Clinic, evaluated antioxidant activities in patients with idiopathic pulmonary arterial hypertension (IPAH), a fatal disease characterized by progressive increase in pulmonary artery pressure and vascular resistance.

Erzurum's study found that the inactivation of these oxidants inside the cell is achieved mainly by the cell's own line of defense against oxidants. Additionally, the researchers determined that this process may contribute to low levels of nitric oxide, identified in IPAH and a fundamental component in the pathogenesis of pulmonary hypertension.

According to Dr. Erzurum, there is a potential long-term benefit to the care of patients with IPAH due to the study's findings. "Antioxidant augmentation in patients might be used to increase nitric oxide vasodilator effects, reduce pulmonary artery pressures and potentially improve clinical outcomes," she said.

Source: Wiley