

Targeted Genomic Analysis of Coagulation Pathway in Acute Lung Injury

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Principal Investigator: Anil Sapru, MD

Synopsis:

Michael Matthay, MD, Heidi Flori, MD and Anil Sapru, MD from the Divisions of Critical Care in Departments of Medicine, and Pediatrics at UCSF and CHRCO are conducting a study investigating a condition called "Acute lung injury" in children. Acute lung injury (ALI) is an illness that occurs in critically ill children and adults that results in difficulty in breathing and low levels of oxygen in the blood. It can occur after illness that directly affect the lung like pneumonia or due to illnesses that start somewhere else like blood infections and shock or trauma.

It is not known why some children have mild ALI and others have much more serious disease. It is possible that in addition to the underlying disease (pneumonia, shock or trauma etc.) that led to the development of ALI, the child or adult may have inherited certain genes that may be important in the severity and recovery from the illness.

The purpose of the research project is to help researchers learn about genetic and environmental factors that influence the severity of disease and recovery from acute lung injury. Identifying these genes may lead to significant advances in the way that children with this disease are cared for. For example physicians may be able to identify children with high risk of severe illness and poor recovery after acute lung injury who may benefit from anticipation, closer watch and specific preventive measures. In addition, it may be possible to develop targeted therapies based on the genetic risk factors identified and there is also potential for identifying children who may respond to a particular therapy more than others.