Pulmonary endothelium in the perinatal period

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Abstract:
The pulmonary circulation is the only system in the body which does not have a dress rehearsal in utero. The pulmonary endothelium plays a pivotal role in ensuring that the resistance falls rapidly after birth so that the lungs can receive and process the entire cardiac output for the first time. It transduces signals triggered by environmental changes to the underlying smooth muscle cells, controlling their reactivity and regulating pulmonary vascular tone. It also clears alveolar fluid. This review addresses the mechanisms involved in these processes and considers failure of adaptation, the syndrome of Persistent Pulmonary Hypertension.

Key words:
pulmonary endothelium, nitric oxide, prostacyclin, endothelin-1, adaptation, pulmonary hypertension, perinatal life