Abstract:

Pulmonary arterial hypertension is a low-incidence, fatal, disease that affects the pulmonary vessels, which remodel, thicken and gradually reduce lumen. During this signaling molecules are excreted from endothelial cells, which act vasoconstrictively and proliferatively on smooth muscle cells. There is also a reduction in the production of vaodilators, which again has a vasoconstrictive effect. Accumulation of immune cells in adventitia promotes smooth muscle cell proliferation, migration and differentiation of fibroblasts into myofibroblasts, which causes changes in the composition of the extracellular matrix. Changes in metabolism within all artery layers related to the transition to glycolysis and increased glucose uptake promote cell proliferation and modulate signaling leading to infiltration and activation of immune cells resulting in artery remodeling.