

Cardiovascular aging Envejecimiento cardiovascular

Domenech, Raúl J.

Macho, Pilar

Aging produces its own cardiovascular changes, mainly remodelling of arteries, heart and the microcirculation. These progressive changes, detected since adolescence, represent a major risk factor for the development of cardiovascular diseases. Remodelling of arteries produces a thickening of the intima-media with fracture of elastic fibers and their replacement by collagen. These alterations induce an increase of the pulse wave and aortic impedance, with greater resistance to ventricular ejection, that in turn induces the remodelling of the left ventricle. Ventricular remodelling leads to systolic, diastolic and chronotropic dysfunctions that explain the reduced capacity of old people to increase cardiac output during exercise. These alterations together with oxidative endothelial dysfunction and somatic mitochondrial mutations in the skeletal muscle decrease aerobic capacity, especially in adults aged >70 years. On the other hand, the transmission of an increased pulse wave to microv