Mechanical properties of vessel walls influence many physiological functions of organisms and its health status. Biomechanical changes in mechanical properties of vessels accompany process of aging. Consequently, biomechanical characteristics may be marker of aging. Aim of this work was identification of biomechanical characteristics of pig aorta walls on the basis of measurement of impulse and transient mechanical responses of deformation on stress. Work also analyzed linearity of parameters. Measurements were performed by instruments developed on department of biophysics and physical chemistry.