Noninvasive measurements of central arterial pressure and distensibility by arterial applanation tonometry with a generalized transfer function : implication for nursing

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摘要

Abstract

Decreased distensibility of large arteries is a strong indicator of cardiovascular risk. Measurements of arterial distensibility can be made noninvasively with the use of an arterial applanation pressure tonometer with a generalized transfer function. This article reviews (1) the concept of arterial distensibility and its relation to pulse wave amplitude, velocity, and reflection; (2) epidemiologic evidence that large-artery stiffness increases cardiovascular risks; and (3) the estimation of arterial distensibility with the use of noninvasive techniques, with an emphasis on measuring pulse wave velocity and calculating the aortic augmentation index. Finally, it addresses the application of arterial applanation tonometry in nursing research and practice