

Abstract

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Telomere biology in heart failure.

Wong LS, de Boer RA, Samani NJ, van Veldhuisen DJ, van der Harst P.

Department of Cardiology, University Medical Center Groningen, University of Groningen, Groningen, Hanzeplein 1, 9700 RB Groningen, The Netherlands.

BACKGROUND: The incidence and prevalence of cardiovascular disease increases progressively with advancing age. Cardiovascular disease is a major cause of morbidity and mortality in Western Countries. In the near future, as the population ages, it is expected that the population prevalence of cardiovascular disease will increase dramatically, imposing a major social and economical burden on society.

DISCUSSION: Not only is age closely related to the development and progression of cardiovascular disease, but genetic and environmental factors also play an important role. Recently, a chromosomal mechanism, telomere shortening, has been considered a driving force by which genetic and environmental factors jointly affect biological aging, and possibly the risk for developing age-associated diseases. Telomeres are the extreme ends of chromosomes and shorten progressively during every cell cycle and therefore can be considered an indicator of biological age.

SUMMARY: In heart failure, telomere length is severely reduced. In the current review, we will discuss the emerging role of telomere biology in the pathophysiology of heart failure.

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