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A Study of Cardiovascular Autonomic Nervous functions in Apparently Healthy Middle aged Individuals

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Abstract

Objectives

This study was conducted to evaluate cardiovascular autonomic functions in apparently healthy middle aged subjects and to make a comparison between middle aged and young adults. The study also aimed to compare the cardiovascular autonomic functions between men and women to detect the possible gender differences in aging associated changes in autonomic nervous functions.

Materials and Methods

152 healthy subjects were evaluated. The study sample was divided into two groups according to age.

Group I: Young adults (18–35 years) (n=88)

Group II: Middle aged subjects (36–55 years) (n=64).

Studies included recording of anthropometric and physiological parameters, and cardiovascular autonomic functions. Classical Ewing tests were used to assess cardiovascular autonomic functions.

Results

The values of Valsalva ratio, I-E, 30:15, Blood pressure responses to sustained handgrip were significantly lower in Group II (middle aged) compared to Group I (young adults). A greater fall in systolic blood pressure on standing was observed in Group II compared to Group I. Negative correlation was observed between aging and Valsalva ratio, I-E, 30:15 and blood pressure response to sustained handgrip and positive correlation between aging and blood pressure response to standing.

Conclusions

1. Healthy aging is associated with significant gradual decline in autonomic nervous functions. 2. Even apparently healthy middle aged subjects show significant decline in cardiovascular autonomic nervous functions. 3. Varying effects of aging on cardiovascular autonomic functions in middle aged men and women with greater decline in middle aged women.

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Keywords

Aging, Gender, Middle age, Autonomic function tests.

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