

The effects of exercise capacity and sedentary lifestyle on hemostasis among middle-aged women with coronary heart disease

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The purpose: It is well documented that physically active healthy women have lower incidence of coronary heart disease than sedentary women and have more favourable blood coagulation profile. The relation between physical activity and hemostatic factors in women has not been well investigated. Our aim was to assess the effects of physical exercise/ sedentary lifestyle on hemostatic factors among middle-aged women surviving an acute coronary event.

Method: The Stockholm Female Coronary Risk Study included females aged ≤ 65 years resident in the greater Stockholm area hospitalized for an acute coronary event between February 1991 and February 1994. A total of 292 women were included and 273 of them performed exercise test. Extensive clinical screening were performed 3-6 month after the coronary event. Self-reported physical activity was assessed using the shortened version of the WHO questionnaire.

Results: After controlling the potential confounders physically inactive patients had significantly higher values of vonWillebrand Factor ($p < 0,01$) and Factor VII ag. ($p < 0,02$) when compared to physically active patients. Fibrinogen levels showed a tend toward higher levels in the physically inactive patients ($p < 0,07$). Exercise capacity according to the results of bicycle-ECG showed an independent inverse relation to fibrinogen ($p = 0,067$), PAI-1 ($p = 0,018$), vonWillebrand Factor ($p = 0,047$) and F. VII ag. ($p = 0,036$) plasma levels.

Conclusion: We found that physically inactive female CHD patients have a procoagulant blood profile. Plasma levels of Factor VII ag., vonWillebrand Factor, PAI-1 and fibrinogen showed an independent, statistically significant relation to physical activity in middle-aged women recently hospitalized for an acute coronary syndrome.