



IMAGING AND DIAGNOSTIC TESTING

HEART DISEASE IN FIREFIGHTERS LINKED TO THROMBOSIS RISK

ACC Poster Contributions

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Background: Professional Firefighters have a 2-3 fold increased Coronary Heart Disease (CHD) risk. Professional activities expose firefighters to environmental conditions that may exacerbate a thrombotic tendency. We hypothesized that a prothrombotic profile would contribute to noninvasive imaging evidence of atherosclerosis in firefighters.

Methods: 300 firefighters over the age of 40 years were recruited from Gwinnett County Georgia. CHD was assessed utilizing 64-slice CT imaging and vascular status utilizing quantitative carotid intimal media thickness (CIMT). Firefighters were classified as having any evidence of coronary calcification (CAC+) or no evidence (CAC-). Fasting blood was analyzed for lipids by standard enzymatic methods, plasminogen, PAI-1, protein C, Lp(a), and fibrinogen by immunochemistry. Mean (+SD) age was significantly higher in CAC+ (50.7+0.5) yr versus CAC- (46.3+0.3 yrs).

Results: Age adjusted mean +SE for CAC+ and CAC- firefighters were not significantly different for LDL-C, HDL-C, fasting triglycerides, BMI, and hs-CRP.

Conclusion: Firefighters with evidence of coronary calcium had higher levels of factors that may contribute to thrombogenic risk in firefighters. The combination of thrombogenic risk and high intensity firefighting activities may contribute to the high incidence of CHD in professional firefighters.

	CAC+	CAC-	p
n	96	200	
CIMT (mm)	0.70+0.03	0.65+0.02	0.0001
Plasminogen (U/ml)	105.7+1.8	99.5+1.2	0.0004
PAI-1	19.5+1.9	16.1+1.1	0.0007
Lp(a) (mg/dl)	78.3+8.3	53.9+5.6	0.06
Protein C	148+3.2	141+2.2	0.07
Fibrinogen (mg/dl)	332+5.8	323+9.9	0.09