Effect of Obesity on Acute Hemostatic Responses to Live-Fire Training Drills

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The objective of this study was to evaluate the impact of obesity and firefighting activities on coagulation and fibrinolytic activity in relatively young, apparently healthy firefighters. Firefighters performed simulated firefighting activities for 18 minutes in a live-fire training structure. Blood samples were obtained at baseline, before firefighting, and within a few minutes of completing the activity. Nearly all markers of coagulation and fibrinolytic activity increased immediately after firefighting with an overall shift toward a procoagulatory profile. Obese firefighters exhibited lower levels of tissue plasminogen activator activity (0.98 vs 0.63 IU/ml) and higher levels of plasminogen activator inhibitor-1 activity (2.2 vs 4.5 ng/ml) at baseline compared with normal-weight firefighters, suggesting that fibrinolytic activity was lower in obese firefighters. There were few interactions between body mass index and firefighting activity, thus our findings suggest that obese firefighters did not exhibit a greater procoagulatory response to live firefighting compared with normal-weight firefighters. Acute live firefighting produced increases in both fibrinolytic and coagulatory responses; although obesity was associated with a reduced fibrinolytic profile at baseline, the changes produced by acute firefighting were similar in obese and nonobese firefighters. **(Am J Cardiol 2014;114:1768−1771)**