

Abstract

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Moderate alcohol consumption and lipoprotein-associated phospholipase A2 activity.

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BACKGROUND AND AIMS: To investigate the effect of moderate alcohol consumption on lipoprotein-associated phospholipase A2 activity, markers of inflammation and oxidative stress and whether these effects are modified by BMI.

METHODS AND RESULTS: Eleven lean (BMI: 18.5-25 kg/m²) and 9 overweight (BMI>27 kg/m²) men participated in a randomized controlled crossover trial. After consuming 3 cans of beer (40 g ethanol) or alcohol-free beer daily during 3 weeks, fasting blood samples were taken. HDL cholesterol increased by 18.2% (p<0.001) after beer compared to alcohol-free beer, while LDL cholesterol decreased by 7.8% (p=0.008). Lipoprotein-associated phospholipase A2 activity was not different (p=0.23) between beer (47.5±0.8) and alcohol-free beer (48.9±0.8). High-sensitive C-reactive protein was unaffected, but urinary isoprostanes tended to increase (p=0.09) after beer (114.0±6.9) compared to alcohol-free beer (96.9±6.5). An interaction between BMI and treatment (p<0.05) on liver enzymes was observed, indicating an increase of liver enzymes after moderate alcohol consumption in overweight men only.

CONCLUSION: Despite profound effects on HDL and LDL cholesterol, moderate alcohol consumption did not affect lipoprotein-associated phospholipase A2 activity. Liver enzymes increased after alcohol consumption in overweight men only, suggesting a less favorable response to moderate alcohol consumption in overweight people.

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