Effect of almond-enriched high monounsaturated fat diet on selected markers of inflammation: a randomized, controlled, crossover study.

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Abstract:
Frequent consumption of nuts lowers the risk of coronary heart disease (CHD). While lowering blood lipids is one of the mechanisms for cardio-protection, this study sought to determine if monounsaturated fat rich almonds also influences other CHD risk factors such as inflammation and hemostasis. This was a randomized, controlled, crossover feeding study with 25 healthy adults (11 men; 14 women), age 22-53 y. Following a 2 week run-in phase (34% energy from fat), subjects were assigned in random order to 3 diets for 4 weeks each: a heart healthy control diet with no nuts (<30% energy from fat), low almond diet and high almond diet (10% or 20% isoenergetic replacement of control diet with almonds respectively). Serum E-selectin was significantly lower on the high almond diet compared to the control diet. E-selectin decreased as the percentage of energy from almonds increased (P <0.0001). C-reactive protein (CRP) was lower in both the almond diets compared to the control diet. A clear dose response was not observed for either E-selectin or CRP. There was no effect of diet on interleukin-6 or fibrinogen. Tissue plasminogen activator antigen was significantly lower on the control and high almond diets compared to the low almond diet, although the values were within normal range. In conclusion, consumption of almonds influenced a few but not all of the markers of inflammation and hemostasis. A clear dose response was not observed for any of the markers studied.