Abstract


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OBJECTIVES: Elevated blood cholesterol levels are a major risk factor for coronary artery disease, the leading cause of death worldwide. Probiotics have been investigated as potential cholesterol-lowering therapies, but no previous studies have assessed the effect of the probiotic yeast Saccharomyces boulardii on cholesterol levels in human volunteers. The objective of this study was to examine the effect of S. boulardii on serum cholesterol and lipoprotein particles in hypercholesterolemic adults.

DESIGN: This study was a single-arm, open-label pilot study.

SUBJECTS: Twelve hypercholesterolemic participants were recruited into the study; one dropped out.

INTERVENTION: Participants took 5.6×10^{10} colony forming unit (CFU) encapsulated S. boulardii (Saccharomyces cerevisiae var. boulardii CNCM I-1079) twice daily for an 8-week period.

OUTCOME MEASURES: Fasting concentrations of cholesterol (total cholesterol, low-density lipoprotein-cholesterol [LDL-C], high-density lipoprotein-cholesterol [HDL-C], and triglycerides), lipoprotein particles (very-low-density lipoprotein-particle [VLDL-P], remnant lipoprotein particle [RLP-P], total LDL-P, LDL III-P, LDL IV-P, total HDL-P, and HDL 2b-P), and additional cardiovascular biomarkers (apo B-100, lipoprotein [a], high-sensitivity C-reactive protein, homocysteine, fibrinogen, and insulin) were measured at baseline, after 4 weeks, and after 8 weeks.

RESULTS: Remnant lipoprotein particles decreased by 15.5% (p=0.03) over the 8-week period. The remaining outcome measures were not significantly altered.

CONCLUSIONS: In this pilot study, 8 weeks of daily supplementation with S. boulardii lowered remnant lipoprotein, a predictive biomarker and potential therapeutic target in the treatment and prevention of coronary artery disease.

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