Packer, M., Gheorghiade, M., Young, J. et al. Withdrawal of Digoxin from patients with chronic heart failure treated with angiotensin-converting-enzyme inhibitors. 


BACKGROUND: Although digoxin is effective in the treatment of patients with chronic heart failure who are receiving diuretic agents, it is not clear whether the drug has a role when patients are receiving angiotensin-converting-enzyme inhibitors, as is often the case in current practice.

METHODS: We studied 178 patients with New York Heart Association class II or III heart failure and left ventricular ejection fractions of 35 percent or less in normal sinus rhythm who were clinically stable while receiving digoxin, diuretics, and an angiotensin-converting-enzyme inhibitor (captopril or enalapril). The patients were randomly assigned in a double-blind fashion either to continue receiving digoxin (85 patients) or to be switched to placebo (93 patients) for 12 weeks. Otherwise, their medical therapy for heart failure was not changed.

RESULTS: Worsening heart failure necessitating withdrawal from the study developed in 23 patients switched to placebo, but in only 4 patients who continued to receive digoxin (P < 0.001). The relative risk of worsening heart failure in the placebo group as compared with the digoxin group was 5.9 (95 percent confidence interval, 2.1 to 17.2). All measures of functional capacity deteriorated in the patients receiving placebo as compared with those continuing to receive digoxin (P = 0.033 for maximal exercise tolerance, P = 0.01 for submaximal exercise endurance, and P = 0.019 for New York Heart Association class). In addition, the patients switched from digoxin to placebo had lower quality-of-life scores (P = 0.04), decreased ejection fractions (P = 0.001), and increases in heart rate (P = 0.001) and body weight (P < 0.001).

CONCLUSIONS: These findings indicate that the withdrawal of digoxin carries considerable risks for patients with chronic heart failure and impaired systolic function who have remained clinically stable while receiving digoxin and angiotensin-converting-enzyme inhibitors.