

# Literature Briefs

C. Philip Larson, Jr., M.D., Editor

Briefs were submitted by Drs. C. M. Ballinger, N. Bergman, D. R. Buechel, R. B. Boettner, R. B. Clark, J. Eckenhoff, J. Jacoby, R. L. Klein, W. Mannheimer, F. C. McPartland, D. Morrow, A. Patterson, R. E. Ponath, J. W. Pender, A. D. Randall, L. J. Saidman, P. Sechzer, A. D. Sessler, C. Wilkinson. Briefs appearing elsewhere in this issue are part of this column.

## Circulation

**ARRHYTHMIAS** The effect of propranolol (Inderal) on atrial arrhythmias was determined in five patients in the immediate post-operative period. Three of the patients had atrial fibrillation and two, atrial flutter. In each patient the electrocardiographic pattern was converted to a sinus rhythm by propranolol. Digitalis, quinidine and DC countershock had been completely ineffective in three of the five patients. These observations suggest that the "quinidine-like" effect of propranolol may offer a safe and effective approach to the treatment of supraventricular arrhythmias. (Wolfson, S., and others: *Conversion of Atrial Fibrillation and Flutter by Propranolol*, *Brit. Heart J.* 29: 305 (May) 1967.)

**DILANTIN AND DIGITALIS** The electrophysiologic effects of diphenylhydantoin (dilantin) accounting for its antiarrhythmic properties were determined and compared with the effects of procainamide (Pronestyl). Studies were performed in normal and digitalis-intoxicated dogs. In both groups of dogs, dilantin (5 mg./kg.) decreased ventricular automaticity, had little effect upon intraventricular conduction, and increased A-V conduction. Pronestyl (30 mg./kg. in divided doses) also decreased ventricular automaticity but in addition decreased A-V and intraventricular conduction. The depression of conduction seen with Pronestyl might promote further, more serious, re-entry types of ar-

rhythmias. It is concluded that the electrophysiologic properties of dilantin upon the heart make it an excellent agent for the treatment of digitalis-induced arrhythmias. (Helfant, R. H., and others: *The Electrophysiological Properties of Diphenylhydantoin Sodium as compared to Procaine Amide in the Normal and Digitalis Intoxicated Heart*, *Circulation* 36: 108 (July) 1967.)

**ABSTRACTOR'S NOTE:** Two cases of fatal cardiac arrhythmias in digitalized patients following dilantin (*J.A.M.A.* 200: 335, 1967; *J.A.M.A.* 200: 337, 1967) might temper one's enthusiasm for its use in digitalis intoxication.

**DILANTIN AND DIGITALIS** Dilantin (5 mg./kg.) increased by 122 per cent the amount of acetylstrophanthidin needed to induce ventricular arrhythmias in dogs. The same dose of dilantin had no effect upon the rate of rise of intraventricular pressure. Thus, dilantin can dissociate the electrophysiologic and inotropic effects of the glycoside. Procainamide (30 mg./kg.) had no effect upon the arrhythmic dose of acetylstrophanthidin and decreased the inotropic effect of the glycoside. Since dilantin increased the toxic dose of digitalis without affecting the inotropic action, the therapeutic index of the glycoside was increased. This might be of benefit to patients in need of the inotropic effects of digitalis but sensitive to the arrhythmic action of digitalis. (Helfant, R. H., and others: *Protection from Digitalis Toxicity with the Prophylactic Use of Diphenylhydantoin Sodium*, *Circulation* 36: 119 (July) 1967.)

**ALCOHOL AND THE HEART** The effects of direct perfusion of the sinus node with ethanol and its degradation products, acetaldehyde and acetic acid, and methanol and its end products, formaldehyde and formic acid, were studied in 75 anesthetized dogs. None