

drug should be used only with extreme caution in the presence of heart block with a slow heart rate is emphasized. (Gianelly, R., and others: *Effect of Lidocaine on Ventricular Arrhythmias in Patients with Coronary Heart Disease*, *New Eng. J. Med.* 277: 1215 (Dec.) 1967.)

#### ECG WITH HYPERVENTILATION

Changes in the electrocardiograms of children during and after hyperventilation were noted. Fifteen per cent of the subjects had one or more inverted T waves following hyperventilation. This observation has been made previously in adults. The clinical implication is that care should be taken in diagnosing organic heart disease from ECG variants. (Thomsen, J. H., and others: *Effects of Hyperventilation on Precordial T waves of Children and Adolescents*, *Circulation* 36: 700 (Nov.) 1967.)

**DILANTIN** The effect of diphenylhydantoin (dilantin) (5 mg./kg.) upon atrioventricular conduction in man before and after digitalis was studied. The right atrium was paced at rates from 100 to 150 beats per minute. Dilantin decreased A-V conduction time both before and after digitalis was given, without affecting QRS duration (intraventricular conduction). Dilantin, by virtue of its effect on decreasing A-V conduction time, may be very useful in the treatment of digitalis-induced arrhythmias when varying degrees of A-V block are present. It is contraindicated, however, in the presence of complete heart block. (Helfant, R. H., and others: *Effects of Diphenylhydantoin on Atrio-Ventricular Conduction in Man*, *Circulation* 36: 686 (Nov.) 1967.)

**DILANTIN** Left ventricular function in patients with heart disease was measured before and after the administration of dilantin (250 mg., intravenously). After dilantin, significant hemodynamic changes were: increased left ventricular and diastolic pressure, decreased stroke work index and stroke power index, and decreased dp/dt. Cardiac index and heart rate were not altered significantly. Maximum changes occurred within five minutes after dilantin and returned to control

levels by 30 minutes. Although dilantin does depress left ventricular performance, this may not be clinically significant since cardiac index and arterial blood pressure are unaltered. (Lieberson, A. D. and others: *Effect of Diphenylhydantoin on Left Ventricular Function in Patients with Heart Disease*, *Circulation* 36: 692 (Nov.) 1967.)

**CARDIAC MASSAGE** Five cases of acute hemorrhage of the upper gastrointestinal tract due to gastric and esophageal lacerations complicating closed-chest cardiac massage were observed by an autopsy service of a general teaching hospital in a 16-month period. During the same time, 348 autopsies were performed, including 50 patients who had received closed-chest cardiac massage. Fractures were found in 20 patients (40 per cent), while gastric and esophageal lacerations constituted the second most-frequently-encountered significant complication (10 per cent). Prevention, early recognition, and prompt decompression of acute gastric distention during cardiopulmonary resuscitation is emphasized as a method of preventing gastroesophageal lacerations during external cardiac massage. (Lundberg, G. D., and others: *Hemorrhage from Gastroesophageal Lacerations following Closed-chest Cardiac Massage*, *J.A.M.A.* 202: 195 (Oct.) 1967.)

**ACID-BASE BALANCE** Acid-base balance in euthermic (37° C.) and hibernating (5° C.) ground squirrels was studied by withdrawal of blood samples under basal conditions through previously-placed intravascular catheters. Arterial pH of euthermic animals was 7.385 and of hibernating animals 7.390, measured at the corresponding temperatures. Arterial  $P_{CO_2}$  was 42 mg. Hg at 37° C. and 35 mm. Hg at 5° C., again measured at the respective temperatures. Total  $CO_2$  content increased from 26 mM./l. in euthermic squirrels to 38 mM./l. in hibernating squirrels. A plausible mechanism for maintaining constant arterial pH over large temperature changes is the respiratory control of  $P_{CO_2}$ , since at a constant  $P_{CO_2}$ , pH changes very little with temperature. The regulation of acid-base characteristics by the hibernator may be an important clue to the "appropriate" acid-base state