

Literature Briefs

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Literature Briefs were submitted by Drs. L. Bachman, C. Ballinger, N. A. Bergman, A. Boutros, H. Cascorbi, R. B. Clark, M. I. Gold, J. Jacoby, D. Morrow, J. W. Pender, L. J. Saidman, A. D. Sessler, and S. Shnider. Briefs appearing elsewhere in this issue are part of this column.

Circulation

ARRHYTHMIA Serum free fatty acids (F.F.A.) are increased during acute myocardial infarction in man, and high elevations of serum F.F.A. are associated with a high incidence of arrhythmias and death. In a study of 40 dogs with acute myocardial infarctions, elevation of serum F.F.A. through activation of lipoprotein lipase by heparin was associated with serious ventricular arrhythmias. Pretreatment with protamine sulfate prevented elevation of the heparin-induced rise in F.F.A. and there was an associated decrease in the frequency of ventricular arrhythmias. High levels of F.F.A. alone may be the cause of arrhythmias after myocardial infarction, and treatment with heparin may not be safe in some patients. (Kurien, V. A., Yates, P. A., and Oliver, M. F.: *Free Fatty Acids, Heparin, and Arrhythmias during Experimental Myocardial Infarction*, *Lancet* 2: 185 (July) 1969.)

INDUCED HYPERTENSION Mean blood pressures of 21 monkeys were measured through catheters chronically implanted in the aortas. Six were trained to press a key which turned off a light associated with delivery of noxious stimuli. These six received the greatest number of noxious stimuli during the initial stages of their training. Arterial blood pressures were not increased above values recorded during a preliminary control period nor above values recorded in the other 15 untrained monkeys. As training progressed and each animal began to press the key rapidly,

the number of noxious stimuli delivered decreased gradually but mean arterial blood pressure increased. Eventually, for four of the six monkeys, mean arterial blood pressure was elevated before, during and after each session regardless of delivery of noxious stimuli. Results are strongly suggestive that operant-conditioning schedules which continuously exert Pavlovian-like control over an animal's behavior also induce marked persistent elevations in systemic mean arterial blood pressure. (Herd, J. A., and others: *Arterial Hypertension in the Squirrel Monkey during Behavioral Experiments*, *Amer. J. Physiol.* 217: 24 (July) 1969.)

REVERSAL OF INDUCED HYPERTENSION Mean arterial blood pressures were measured in three monkeys through chronically-implanted catheters. The monkeys were trained to press a key which turned off a light, thereby preventing the delivery of noxious stimuli. As training progressed and each animal pressed the key rapidly, mean arterial blood pressure consistently increased and was correlated with key-pressing. Following this training period, the key was removed from the apparatus and the schedule altered so that the increases in blood pressure *per se* turned off the light, preventing the delivery of noxious stimuli. Mean arterial blood pressure increased to hypertensive levels during each session. The schedule was finally changed so that only decreases in mean arterial blood pressure prevented delivery of noxious stimuli. Mean blood pressure consistently returned toward control values. Thus, mean arterial blood pressure was made to increase and decrease predictably in response to environmental stimuli, which in turn were scheduled according to variations in blood pressure. (Benson, H., and others: *Behavioral Induction of Arterial Hypertension and Its Reversal*, *Amer. J. Physiol.* 217: 30 (July) 1969.)