Literature Briefs

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Briefs were submitted by Drs. N. Bergman, A. R. Boutros, D. R. Buechel, R. B. Clark, M. I. Gold, W. H. Mannheimer, F. C. McPartland, D. H. Morrow, R. C. Morton, J. W. Pender, A. D. Randall, H. Roe, P. H. Sechzer, A. D. Sessler, and M. Soetens. Briefs appearing elsewhere in this issue are part of this column.

Circulation

ACETYLCHOLINE AND THE HEART In anesthetized open-chest dogs, left ventricular output, coronary sinus outflow, arterial blood pressure, myocardial contractile force, and heart rate were measured. All drugs were injected into the total coronary artery inflow. The threshold dose for coronary vasodilating effect of acetylcholine was 0.01 to 0.1 μg. The negative inotropic effect was ten times the coronary vasodilating effect of the threshold dose. After neostigmine, the negative inotropic and chronotropic effects of acetylcholine were reduced. Atropine had selective blocking actions on acetylcholine in various dose ranges. Following atropine and neostigmine, acetylcholine produced a positive inotropic effect which could be blocked by certain drugs, including pronethalol. (*Blumenthal, M. R., and others: Effects of Acetylcholine on the Heart, Amer. J. Physiol. 214: 1280 (June) 1968.*)

CORONARY INSUFFIENCY Coronary artery injections of radiopaque material into the vessels of hearts at autopsy disclosed that angina pectoris in most cases is due to extensive narrowing and occlusion of these vessels by atherosclerotic disease. The development of coronary collateral anastomoses could compensate to a great extent for obstructions in the coronary arteries. The electrocardiographic hallmark of myocardial hypoxia, ST-segment depression, has provided a valuable diagnostic method that identifies coronary insufficiency when it accompanies either spontaneous or induced anginal pain. The two-step test is a useful diagnostic method, and treadmill testing with ECG monitoring provides a quantitative measure of the severity of angina as well as evidence of adaptation in the coronary circulation. (*Kattus, A. A., Jr., and others: Diagnosis, Medical and Surgical Management of Coronary Insufficiency, The UCLA Interdepartmental Conference, Ann. Int. Med. 69 (July) 1968.*)

DEXTRAN IN MYOCARDIAL INFARCTION The beneficial effects of low-molecular-weight dextran (LMD_x) on blood flow suggest its use in patients with acute coronary thrombosis. The 13 per cent morbidity rate in patients treated with LMD_x for 24 hours was a significant improvement over the 32 per cent rate in control patients. Whether the apparent benefit was due to (1) decreased capillary sludging in the microcirculation, (2) decreased viscosity of blood with resultant decrease in cardiac work, or (3) volume expansion in shocked patients, is not known. Because its osmotic action increases plasma volume its use in patients with poor renal function is contraindicated, and careful observation is necessary to prevent circulatory overload. (*Langsjoen, P. H., and others: The Treatment of Myocardial Infarction with Low Molecular Weight Dextran, Amer. Heart J. 76: 28 (July) 1968.*) ABSTRACTER'S COMMENT: This is a short-term study, and it is not clear why this apparent improvement in mortality should occur without significant reduction in the major complications of myocardial infarction, namely congestive failure and arrhythmias.