

Literature Briefs

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Briefs were submitted by Drs. C. M. Balingier, Peter P. Bosomworth, H. S. Davis, Deryck Duncalf, Martin Helrich, G. Hohman, J. J. Jacoby, F. C. McPartland, S. J. Martin, A. S. Paterson, R. E. Ponath, Alan D. Randall, W. H. Ring, H. S. Rottenstein, P. H. Sechzer, and B. L. Vandemeer. Briefs appearing elsewhere in this issue are part of this column.

CARDIAC RESUSCITATION In 50 dogs in which circulatory arrest was produced by asphyxia, intracardiac injection of 1 ml. epinephrine 1:1,000 in combination with air IPPB, closed chest cardiac massage, and external electrical defibrillation was highly effective in restoring spontaneous circulation, whereas the same maneuvers without epinephrine were largely ineffective. In 20 additional animals brought to the verge of circulatory arrest (25 mm. of mercury aortic systolic pressure) and then given air IPPB, with or without intracardiac epinephrine, the recoveries again were greater in the epinephrine treated group. Epinephrine should be used in the treatment of both myocardial arrest and ventricular fibrillation. (Pearson, J. W., and Redding, J. S.: *Epinephrine in Cardiac Resuscitation*, *Amer. Heart J.* 66: 210 (Aug.) 1963.)

BLOOD VOLUME Studies were made in the dog of the effects of acute hematocrit variations with either normal or increased blood volumes. Measurements included cardiac output, peripheral vascular resistance, arterial oxygen saturation, and systemic oxygen transport. Cardiac output had a significant inverse correlation to hematocrit in both normovolemic and hypervolemic experiments. Cardiac output was approximately twice as high in hypervolemic dogs as in the normovolemic ones at any comparable hematocrit. In both volume groups, the change in cardiac output was related more to variations in stroke volume than heart rate. In both blood-

volume groups studied, there was a rise in peripheral vascular resistance that became progressively greater as hematocrit increased. In hypervolemic studies, the peripheral vascular resistance was approximately half that which occurred in normovolemic experiments at any comparable hematocrit. Oxygen saturation decreased significantly as hematocrit increased. Systemic oxygen transport was approximately twice as high in hypervolemic as in normovolemic studies at any comparable hematocrit. It is concluded that both the blood volume and hematocrit level have independent regulatory effects on the circulation. The observed changes depend upon the interaction of these two variable parameters. (Murray, J. R., Gold, P., and Johnson, B. L., Jr.: *Circulatory Effects of Hematocrit Variations in Normovolemic and Hypervolemic Dogs*, *J. Clin. Invest.* 42: 1150 (July) 1963.)

CARDIAC SURGERY CARE Most patients after cardiac surgery demonstrate some degree of respiratory insufficiency which may depress myocardial function and cause arrhythmias. Most patients require controlled or assisted ventilation until arterial oxygen tension is stabilized at a normal level. Careful monitoring of electrocardiogram, cardiac output, acid-base balance, blood volume, blood gases, and pH are necessary in the management of these patients. Such intensive care will diminish the complications attributable or subsequent to open heart surgery. (Christlieb, I. I., and others: *Postoperative Care in Cardiac Surgery: A Frequent Determinant of Success or Failure*, *Dis. Chest* 44: 47 (July) 1963.)

CARDIOVERSION Direct current for terminating ectopic cardiac arrhythmias consists of depolarization of the heart across the intact chest during a particular phase of the cardiac cycle with a brief monophasic direct current pulse. Fifty patients with atrial fibrillation