

some beneficial effect may be due to a reduction of blood viscosity, to an expansion of blood volume, or to a less well-defined action on hemostatic function. (Foster, J., and others: *Low Molecular Weight Dextran in Vascular Surgery: Prevention of Early Thrombosis following Arterial Reconstruction in 85 Cases*, *Ann. Surg.* 163: 764 (May) 1966.)

AMINOCAPROIC ACID The use of aminocaproic acid to control postoperative bleeding and its potential thromboembolic hazards were studied in a series of patients undergoing prostatectomies by various routes. Nine patients, given aminocaproic acid by intravenous infusion at the rate of 0.5 g. per hour for twelve hours starting at the time of the operation, were compared to nine controls using the statistical technique of sequential analysis. Blood loss was one-third as great in the treated group. Since it had been suggested earlier that aminocaproic acid might cause intravascular thrombosis, 515 patients were treated by intravenous infusion of 6 grams of aminocaproic acid for a 12 hour period or given a placebo infusion. These patients were equally divided between the aminocaproic acid and control groups. The incidence and location of thromboembolic complications was the same in both groups of patients. It was concluded that the drug was safe both therapeutically and prophylactically and published reports have not revealed convincing data to the contrary. (Vinnicombe, J., and Shuttleworth, K. E. D.: *Aminocaproic Acid in the Control of Hemorrhage After Prostatectomy*, *Lancet* 1: 230 (Jan.) 1966.)

ACID-BASE TERMINOLOGY In the Brønsted-Lowry system, which takes into account the central role of water in acid-base reactions, an acid is a proton donor and a base is a proton acceptor. Buffers are substances which by their presence in solution increase the amount of acid or alkali that must be added to cause a unit change in pH. Total carbon dioxide concentration is the carbon dioxide extractable from a biological fluid in the presence of a strong acid. Negative values of base excess can be denoted by the term "base deficit." Characterization of the metabolic

component of acid-base balance can be made by using base excess or standard bicarbonate, both of which have advantages and disadvantages. (Report of Ad Hoc Committee on Acid-Base Terminology, *Ann. N. Y. Acad. Sci.* 133: 251 (April) 1966.)

REVIEWER'S COMMENT: Other papers presented at this symposium of the New York Academy of Sciences on acid-base measurement also placed considerable emphasis on definitions to minimize semantic confusion.

ACIDOSIS There is a close relationship between metabolic acidosis and the susceptibility of the heart to ventricular fibrillation; as the base deficit increases, there is a corresponding decrease in the threshold for ventricular fibrillation. In contrast, metabolic alkalosis appears to protect the heart from ventricular fibrillation; as the base excess increases, there is a corresponding rise in fibrillation threshold. However, similar degrees of pH change resulting from a respiratory acidosis and alkalosis do not alter the ventricular fibrillation threshold. For example, when a metabolic acidosis develops, restoring pH toward normal by augmenting respiration alone does not protect the heart from the increased susceptibility to ventricular fibrillation which exists as long as a base deficit is present. (Gerst, P. H., and others: *A Quantitative Evaluation of the Effects of Acidosis and Alkalosis Upon the Ventricular Fibrillation Threshold*, *Surgery* 59: 1050 (June) 1966.)

VASODILATORS In low flow states, there is a progressive increase in lactic and pyruvic acidemia. Administration of vasodilators such as Peritrate will significantly decrease the formation of lactic and pyruvic acid and prevent a fall in blood pH. This study suggests that the irreversible factor in low flow states is the anaerobiosis which blocks enzyme systems which otherwise permit normal aerobic metabolism and energy component production. (Schumer, W., and others: *The Metabolic Effects of Vasodilators on Low Flow States in the Dog*, *Surgery* 59: 825 (May) 1966.)

CARDIOVERSION A significantly greater number of patients in whom the precardio-