

laxant techniques, in a limited field of surgery, as well as possessing a number of therapeutic applications."

The first 4 of the 9 chapters comprise a brief, but inclusive, résumé of the development of epidural analgesia and of the physical, physiologic, and anatomic facts upon which its successful utilization depends. The remainder of the book is concerned with practical considerations of indications, technique, management, advantages, and hazards of the method. The wealth of illustrative material and advice derived from Dr. Bromage's wide experience renders this section invaluable to those having limited experience with the technique.

The text is clear and concise, generously illustrated with photographs, diagrams, charts, and tables. References to the literature are listed at the end of each chapter. Since this volume makes available material for which otherwise one would have to consult many sources, it is of great value to anesthesiologists and surgeons.

JULIA G. ARROWOOD, M.D.

Dextran: Its Properties and Use in Medicine. BY JOHN R. SQUIRE, M.D., F.R.C.P., AND OTHERS. \$3. Pp. 91, with 7 figures. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 24-25 Broad St., Oxford, England, 1955.

The qualities desired in a blood plasma substitute are described and dextran is presented as a possible substitute. Dextran is a collective name given to represent a series of polyglucoses whose molecules vary in size and configuration. It is commonly used as a 6 per cent solution and is effective through the colloid osmotic pressure it exerts in the blood stream. Its physical and chemical nature, availability, and behavior in the human body permit this substance to serve well as a temporary fluid replacement when plasma is not readily available. It has been standardized in the United States and Britain (1954), with only slight differences, although an international standard would be preferable.

The authors feel that dextran will be most useful (1) in normal transfusions practice while waiting for cross-matching tests to be completed when plasma is not available, (2) in places where blood is not available, and (3) in national emergencies. Its chief use appears to be for the treatment of shock of an acute nature due to blood loss. Dr. Squire reports its use in the nephrotic syndrome, but these studies are incomplete and results equivocal.

Dextran is relatively nontoxic in the body. Certain individuals exhibit a sensitivity to it, as manifested by urticaria or a generalized reaction of an allergic or anaphylactic nature, which is more common in the unanesthetized individual. These reactions seem to be associated with certain strains of leuconostoc bacteria producing the dextran. The more highly branched dextrans were associated with a higher incidence of reactions.

From the above, it seems advisable that in the future specification of dextran should include a statement of the strain of leuconostoc bacteria producing the dextran, and a statement of whether the branches are long or short. Dr. Squire stresses the desirability of an expression of the colloid osmotic pressure of the mixture of dextran and serum, the determination of which at present is technically not feasible.

Dr. Squire and associates have presented an interesting and comprehensive study of dextran, including problems yet to be solved. The impression is gained that dextran in its present form can be a vital drug in intravenous therapy, and we can look forward to an improved dextran in the near future.

ANNE H. DODD, M.D.