

## BOOK REVIEWS

**CARDIOVASCULAR NUCLEAR MEDICINE, CURRENT METHODOLOGY AND PRACTICE.** Leonard Freeman and M. Donald Blaufox, Eds. New York, Grune & Stratton, 1980, pp 29, \$37.50

This book represents another in a series of reprints from the quarterly journal *Seminars in Nuclear Medicine*. For those who subscribe to that journal, this volume would consequently be redundant. For those who do not and who have an interest in cardiologic diagnosis, however, especially cardiopulmonary internists and surgeons, this volume is recommended as one of the best current collections of papers on nuclear cardiology.

The book begins with a comprehensive overview of nuclear cardiology by R. N. Pierson and colleagues who give an intelligent review of special problems to be solved. Two subsequent chapters on radiopharmaceuticals by L. R. Chervu and instrumentation by S. L. Bacharach, et al. provide a good technical foundation for the extensive clinical material that follows. There are good general discussions of the techniques and clinical indications for first-pass and gated-blood pool imaging, thallium perfusion, and Tc-99m pyrophosphate myocardial scans. In addition, there are excellent discussions of less commonly performed tracer studies, such as cardiovascular shunt detection and myocardial blood flow studies using particulate and diffusible tracers. The authors have been carefully chosen both for their authority and their ability to communicate.

There is one particular fault with this volume that stems from multiple authorship in a narrow segment of nuclear medicine, redundancy. Even in the seminars, one wishes that the editors used sharper scissors to extirpate much background information many authors include for completeness but have been already amply developed by other contributors. It is even more noticeable in these composite works. Nevertheless, the information that lies beyond is worth seeking.

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**REAL-TIME ULTRASOUND IN OBSTETRICS.** M. J. Bennett and S. Campbell. Oxford, New York, Blackwell Scientific Publications, 1980, pp 147, \$42.50

The inevitable chapter on physics, instrumentation, and artifacts is written by a physicist, R. J. Blackwell, who is an experienced teacher, and who presents a simplified and copiously illustrated chapter that is easy to read and to comprehend. The "Chinese hat" (spurious echoes due to grating lobes) and the "zoo effect" (bars due to the time baselines), add some colorful new nomenclature for North American readers. I am not as positive as the author that Rayleigh scattering is of any consequence in generating a B-scan. The chapter is well worth reading, and my major criticisms would be the absence of any discussion on TGC and the poor quality of the illustrations, even allowing for the fact that they come from real-time instruments.

Chapter 2 reviews the clinical potential of real-time ultrasound and gives invaluable advice to the would-be purchaser of real-time devices. It is refreshing to find an experienced obstetrician-ultrasonologist who appreciates the value of mechanical, rotating scanners in addition to the ubiquitous linear arrays with their poor

resolution. The authors advocate routine screening in pregnancy, once at 16-18 wk, and again at 32 wk. Many obstetricians in this country would feel that the cost-efficacy of this program is unproven.

In chapter 3, Drs. Adam and Robinson from Glasgow evaluate real-time scanning in the first trimester of pregnancy. Chapters 3 and 4 provide some of the best scans, which were obtained from a rotating mechanical scanner. Of course, varying equipment alters the point of the text, and I would feel that fetal life can be visualized on a real-time scanner before 10 wk: without linear arrays we would be very concerned about the absence of fetal heart activity at 7 wk. The authors advocate crown-rump estimation on patients with an empty bladder attending an antenatal clinic and have found excellent correlation between this estimation and the conventional technique. One major omission from this chapter is the absence of any discussion of the diagnosis or exclusion of ectopic pregnancy.

Dr. Bennett reviews the use of real-time ultrasound in the second and third trimesters, and covers the diagnosis of pregnancy and gestational age, multiple gestation, fetal viability, and placental localization. Some of the problems of the first trimester are inexplicably repeated in this chapter. It ends with the ultrasonic evaluation of fetal growth and mentions IUGR rather briefly.

The chapter by Drs. Devore and Hobbins on ultrasound in fetoscopy is one of the most fascinating and as with the rest of the book, it is brief and informative.

Chapter six by Dr. Wladimiroff and his coworkers is a fascinating exposition on the changes in cardiac dynamics in the fetal and neonatal period. Although there is no immediate clinical value to this, the ability to monitor noninvasively the changes in relative ventricular size of such openings as the foramen ovale and ductus arteriosus as they close, adds significantly to our knowledge of neonatal cardiac hemodynamics.

In Chapter 7, Dr. Little compares the results of BPDs obtained by real-time with those produced on static scans and reports an equal accuracy. The message is clear: gestational age can be obtained accurately by real-time scanning in the antenatal clinic and does not require static scanning on "large, expensive machines . . . located in separate departments."

Chapter 8, written by G. Gennser, describes the use of real-time and M-mode recordings of fetal respiration with clarity, and Chapter 9 summarizes Dr. Lewis' work and that of others on the effect of drugs on fetal breathing movements. This fascinating chapter suggests that the human fetus is not as sensitive to CNS depressants as has been considered hitherto.

Another of the King's College group's follows and describes activity, this time comparing normal with growth-retarded fetuses. Fetal respiration and total fetal activity was significantly decreased in growth-retarded fetuses compared with normals.

The final chapter in the book is by Hylton Meire, the only nonobstetrician (radiologist) contributor. Dr. Meire, a highly experienced and skilled ultrasonologist, attempts to predict the future trends of ultrasonic instrumentation.

In summary, I found this book immensely readable. It is written by obstetricians for obstetricians and, as an introduction to obstetric real-time ultrasound, achieves its purpose successfully. I would like to see, however, a greater awareness of the possible bioeffects of ultrasound, which would involve some discussion of