

NOTES FROM ABROAD

Meeting of the Australian and New Zealand Society of Nuclear Medicine

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The Annual Scientific Meeting of the Australian and New Zealand Society of Nuclear Medicine was held in Melbourne, Australia, May 8-10, 1978. The scientific program reflected a desire on the part of the Society to review a number of areas of growth in nuclear medicine and to consolidate the position of a strong clinical discipline supported by a healthy technological discipline.

Dr. E. F. Crocker compared the subtraction method of detecting parathyroid glands (using the isotopes of technetium-99m, and [⁷⁵Se]-selenomethionine) with ultrasound. Although his series was small, the results appeared encouraging and further information is anticipated that will demonstrate the reliability of the subtraction technique.

Dr. Guignard of the Nuclear Medicine Department, Royal Melbourne Hospital, presented a paper entitled, "A Practical Linear Filter for Scintiphotographic Images," in which he demonstrated that filter processing by computer analysis improved the resolution of gamma camera images when compared with the unprocessed data. This method has a great deal of theoretical value, and additional details are awaited.

Dr. Gaffney of the Royal Adelaide Hospital discussed "Iodine Burdens of Staff Engaged in Routine Iodination Procedures for RIA." He showed that when routine whole body monitoring was performed on the staff engaged in these procedures, a very considerable amount of I-125 absorption by the body was found. The discussion centered around how this radioiodine burden could be re-

duced. Following this, Dr. Howman-Giles of the Royal Prince Alfred Hospital, Sydney, presented a paper on technetium bone scanning in patients with neuroblastoma. His major point was that to diagnose metastases from neuroblastoma in young children, it was necessary to be familiar with the anatomy of the maturing skeleton. With this information, the diagnostic accuracy rate increased quite remarkably. In his second paper, "Conservative Management of Splenic Trauma" the major point made was that if a radionuclide image revealed a ruptured spleen, conservative management was usually safe, and thus the necessity for surgery with the attendant risk of overwhelming infection subsequently was avoided.

Dr. deZwart and Dr. Pugsley of Adelaide reviewed their work in which they used radioactive-labeled [¹³¹I] hippuran for the detection of renal rejection during the immediate posttransplant period. In many patients they have been able to predict rejection approximately 24 hours before it became clinically obvious. They further observed that there is a need for some type of radionuclide study daily to predict rejection in this early period.

In another paper on renal disease, Dr. Chatterton, Royal Adelaide Hospital, discussed the evaluation of renal function by a single sample technique. He demonstrated that the determination of GFR with Cr-51 made possible a good correlation between a single sample method and the orthodox technique used for this determination.

Dr. R. F. Uren, on behalf of his colleagues at the

Royal Prince Alfred Hospital in Sydney, presented their work on a multiple-gated acquisition technique designed to produce a cine display of ventricular wall motion and a calculation of ejection fraction by *in vivo* labeling of the patient's blood. Computer acquisition was in matrix mode, and the cardiac cycle was divided into 12 segments for the construction of an endless-chain cine display. Simultaneously a high-temporal frequency histogram was constructed for the calculation of ejection fraction. Acquisitions were made in the modified left anterior oblique and right anterior oblique positions. A key part of the procedure was the use of a 30° slant-hole collimator to simulate a 30° caudad tilt on the camera. Evidence suggested that this technique produces better separation of both the right and left ventricle and the left atrium from the left ventricle. The work of Dr. R. Howman-Giles and his colleagues at the Hospital for Sick Children, Toronto, Canada, illustrated the application of thallium scanning and multiple-gated blood pool scanning in children. The authors found these techniques valuable in the investigation of myocardopathies and in the accurate identification of cases of anomalous left coronary artery. Dr. A. F. McLaughlin presented a study that he and Dr. Uren had undertaken on imaging in the diagnosis of pericardial effusion. Their evidence demonstrated that the radionuclide technique, if combined with a first-pass study of cardiac dynamics, was a valuable tool in the management of pericardial effusion. They pointed out that nuclide investigation gives a global view of the pericardium and is more valuable than ultrasound in loculated effusions. In particular, however, they believe that by assessment of the degree of superior vena cava nipping and the degree of compression of the right heart they were able to predict impending or overt cardiac tamponade.

Two papers of considerable interest were devoted to the techniques of bone scanning. Dr. W. J. McKay and Dr. D. T. Thomas from the Austin Hospital presented a small series of cases that dem-

onstrated the value of imaging in the diagnosis of doubtful fracture of the carpal scaphoid. Mr. R. J. O'Reilly presented a review of work in progress at the Institute of Medical and Veterinary Science in Adelaide on the identification of nonunion in fractures of the tibia, by computer analysis of the degree of uptake at the fracture site compared with that in the adjacent shaft. This group felt that it was possible to show a progression of events that indicate normal healing. In the absence of this progression they identified, within a month of fracture, several cases that eventually went on to nonunion. As an extension of this investigation, they evaluated fracture cases with subsequent nonunion that had been treated by electrical stimulation. Again, evidence suggested that in the early postoperative period it is possible to separate those fractures that will respond satisfactorily from those in which technical malfunction has occurred in the stimulator.

Dr. G. Subramanian (U.S.A.) discussed a new solid-phase method for the preparation of technetium-labeled radiopharmaceuticals. In addition he discussed quality-control measures that should be applied to radiopharmaceuticals in the individual nuclear medicine laboratory.

G. Minch and G. Mitchell, nuclear medicine technologists from the Prince of Wales Hospital, Sydney, described procedures to monitor the residual dose level of I-131 following therapeutic doses of radioiodine. This is an especially valuable and practical technique because of the problem of radiation safety.

The paper that won the Mallinckrodt award for technologists, was given by R. F. Hoffman, Department of Nuclear Medicine, Fremantle Hospital, W.A. He described a technique for lower limb radionuclide venography, which uses a large field of view-gamma camera and a whole-body imaging couch. From a study of 82 patients, extremely useful techniques were developed to define positive and negative examinations. The criteria for a positive study were enthusiastically discussed.