RADIOCHEMICAL PURITY AND STABILITY OF COMMERCIAL Tc-99m-Sn-DIPHOSPHONATE KITS USING A NEW CHROMATOGRAPHY TECHNIQUE. A. Michael Zimmer and Richard A. Holmes. The Medical College of Wisconsin, Milwaukee, Wisconsin

The radiochemical purity of four commercially available technetium-99m diphosphonate (Tc-DiP) kits was determined using a chromatography technique that differentiated technetium-99m pertechnetate, Tc-DiP, and hydrolyzed reduced technetium-99m. The chromatographic procedure involved spotting the radiopharmaceutical on Gelman instant thin layer chromatography-silica gel (ITLC-SG), developing the strip in acetone, air drying, and redeveloping the chromatography strip in normal saline. The Tc-DiP kits included: Osteoscan (Proctor and Gamble); HEDSPA (Union Carbide); Diphosphonate (Diagnostic Isotopes) and MPI Bone Scintigraphin (Medi-Physics). Each kit was prepared daily on successive days by adding either methyl ethyl ketone (MEK) extracted technetium-99m (Medi-Physics) or technetium-99m generator eluate (Mallinckrodt). The stability of the Tc-DiP kits was also determined hourly for as long as 5 hours after preparation.

The radiochemical purity for three commercial Tc-DiP kits was consistently greater than 95 percent. The other kit failed to achieve 95 percent purity using pertechnetate eluted from a generator and 85 percent purity using MEK extracted pertechnetate. More daily consistent radiochemical purities were achieved with MEK extracted technetium-99m, however, higher daily radiochemical purities were obtained with generator produced technetium-99m.

The entire chromatographic procedure took less than 15 minutes to perform. No significant degradation to skeletal image quality was observed when the Tc-HR concentration was less than 5 percent.

## TECHNOLOGISTS' SCIENTIFIC PROGRAM

The following papers have been accepted for the Technologists' Scientific Program. Complete abstracts may be found in the June issue of the JOURNAL OF NUCLEAR MEDICINE TECHNOLOGY.

RADIONUCLIDE TECHNOLOGY IN THE DIAGNOSIS AND MANAGEMENT OF THE TRAUMATIZED PATIENT. Larry E. Alt, Barbara Koch, Kenneth B. Miller, Kathy A. Virant, and B.C. Berg. St. Francis Hospital and Peoria School of Medicine, University of Illinois, Peoria, Ill.

CONVENIENT, INEXPENSIVE TRAPPING OF RADIOXENON. Norma S. Anderton, Gary Myers, and Paul H. Murphy. St. Luke's Episcopal-Texas Children's Hospitals, Houston, Tex.

MULTI-PURPOSE DOUBLE-BARREL SYRINGE: AN AID IN THE ADMINISTRATION OF RADIOPHARMACEUTICALS. Sheldon J. Ashley. Flushing Hospital and Medical Center, Flushing, N.Y.

IODINE-125-DIGOXIN RADIOIMMUNOASSAY: KIT COMPARISON. D.J. Battaglia, C.F. Burkhead, M.L. Cianci, and O.B. Hunter, Jr. Oscar B. Hunter Memorial Laboratory, Washington, D.C.

PDS 3 COMPUTERIZED RADIOIMMUNOASSAY: MODIFICATIONS. D.J. Battaglia, M.L. Cianci, C.F. Burkhead, and O.B. Hunter, Jr. Oscar B. Hunter Memorial Laboratory, Washington, D.C.

TECHNETIUM-99m-ALBUMIN WALL MOTION STUDY FOR LEFT VENTRICULAR WALL MOTION. E. Botvinick, C. Boyce, L. Bunz, and D. Shames. University of California, San Francisco, Calif.

A TECHNICAL COMPARISON OF SCANNER AND CAMERA IMAGING SYSTEMS USING THE MODULATION TRANSFER FUNCTION (MTF) AS A FUNCTION OF DEPTH. Michael R. Budge. Toronto Institute of Medical Technology (Toronto General Hospital), Toronto, Ontario, Canada

HUMAN PANCREATIC IMAGING WITH $^{13}$N-L-ALANINE. C.C. Chang, J. Takahashi, H.H. Neely, and D.D. Bobinet. Veterans Administration Hospital, Sepulveda, Calif., and UCLA Biomedical Cyclotron Facility, Los Angeles, Calif.

RAPID DETERMINATION OF FREE PERTECHNETATE IN LABELED RADIOPHARMACEUTICALS. Lelio G. Colombetti, Steven Pinsky, Stephen Marlien, and Angel Quaioit. Michael Reese Hospital and Medical Center, Chicago, Ill.

THE ANGER RECTILINEAR TOMOGRAPHIC SCANNER. Bridget H. Czerwinski and Margaret H. Comer. Rush-Presbyterian St. Luke's Medical Center, Chicago, Ill.

CHEMICAL DETERMINANTS OF ACCURACY IN THE RADIOASSAY FOR SERUM FOLATE. Diane Forrest and Timothy Shea. Harvard Medical School and Peter Bent Brigham Hospital, Boston, Mass.

A COMPARISON OF WEEKLY AND BIWEEKLY GENERATOR SYSTEMS WITH RESPECT TO RADIATION SAFETY. Anne W. Hempel and Christopher B. Martin. Roseville Community Hospital, Roseville, Calif.

REGIONAL SCANNING METHODOLOGY USING AN OVERHEAD SCINTILLATION CAMERA. Charles A. Henry, Michael F. Barnes, Edward G. Bell, David F. Mahon, William White, Jay R. Wolff, and Ronald E. Turcotte. Crouse-Irving Memorial Hospital, Syracuse, N.Y.

A TANTALUM SYRINGE SHIELD FOR $^{99m}$Tc INJECTIONS. J. Howley, H. Tipton, A. Jones, M. Dickinson, M. Green, and G. Johnston. National Institutes of Health, Bethesda, Md.

EVALUATION OF SCINTILLATION CAMERA COLLIMATORS FOR IMAGING WITH $^{201}$Tl. Eugene Kilanowski, Ernest Garcia, and August Miale. Jackson Memorial Hospital, University of Miami School of Medicine, Miami, Fla.

MINIDIGITAL COMPUTER ANALYSIS FOR IN VITRO LABORATORY. Ilsup Kim, A. Sidney Johnston, Hunter Mermall, and Steven Pinsky. Michael Reese Medical Center, Chicago, Ill.

RADIOIMMUNOASSAY OF DIGOXIN: WHICH METHOD? Louise Larraga, Donald E. Tow, Carolyn A. Diets, Paul F. Godin, and John S. Belko. Veterans Administration Hospital, West Roxbury, Mass.

FUNCTIONAL IMAGES OF THE LEFT VENTRICLE. Michael T. LeFree, Dennis L. Kuch, and Peter P. Steele. Veterans Administration Hospital, Denver, Colo.

A QUALITY CONTROL PROCEDURE FOR PIPETTING SYSTEMS. Janet M. Marks, A. Michael Zimmer, Edward A. Silverstein, and Richard A. Holmes. Milwaukee County Medical Complex, Milwaukee, Wisc.

FREE TECHNETIUM IN PREPARATIONS OF $^{99m}$Tc-DIPHOSPHONATE (HEDSPA) FOR BONE IMAGING. Michael V. McCormick, Michael D. Sinclair, and Heinz W. Wahner. Mayo Clinic and Mayo Foundation, Rochester, Minn.

MOTION PICTURE FORMAT PRESENTATION OF GATED CARDIAC BLOOD POOL IMAGES. Bonnie A. Mefferd, Catherine Quigley, Michael V. Green, Harry Agress, Jr., and Gerald S. Johnston. National Institutes of Health, Bethesda, Md.

INFLUENCE OF CHARCOAL SEPARATION TECHNIQUE ON THE RELIABILITY OF A RADIOASSAY FOR VITAMIN $B_{12}$. Pamela Myford and Diane Forrest. Harvard Medical School and Peter Bent Brigham Hospital, Boston, Mass.

A STUDY OF VARIABLES INFLUENCING SIZE AND TEXTURE OF MACROAGGREGATED HUMAN SERUM ALBUMIN. Ghanshyam C. Patel, Lelio G. Colombetti, Steven M. Pinsky, and Stephen Moerlien. Michael Reese Hospital and Medical Center, Chicago, Ill.

RADIONUCLIDE VENOGRAPHY (RNV): EXPERIENCES WITH 100 CASES. Sally K. Russell and Robert N. Odelson. Lutheran General Hospital, Park Ridge, Ill.

A DUAL RADIOPHARMACEUTICAL JOINT SCAN METHOD FOR ARTHRITIC ASSESSMENT. M.L. Silver and N.D. Greyson. Mount Sinai Hospital, Toronto, Ontario, Canada

METHOD OF PERFORMING VENTILATION STUDIES ON PATIENTS REQUIRING RESPIRATOR OR POSITIVE PRESSURE MACHINE. T.P. Sorandes and M. Getka. University of Maryland Hospital, Baltimore, Md.

FLUORESCENT EXCITATION ANALYSIS FOR IN VITRO TESTS. S.J. Swann, L. Kaufman, D.C. Price, J.P. Huberty, P. Guesry, S. Orloff, S.T-C Hung, and M. Holliday. University of California, San Francisco, Calif.

THE TECHNIQUE OF DIRECT RADIONUCLIDE CYSTOGRAPHY. Susan Weiss and James J. Conway. Children's Memorial Hospital, Chicago, Ill.

HUMAN GROWTH HORMONE BY RADIOIMMUNOASSAY. Judy Williams. Methodist Hospital, Houston, Tex.

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