

TISSUE DISTRIBUTION STUDIES IN MICE WITH A CU-64 LABELED THIOSEMICARBAZONE. L.M. Lieberman and David Young, University of Wisconsin Hospitals, Madison, Wisconsin and D.H. Petering and Daniel Minkel, University of Wisconsin-Milwaukee, Wisconsin.

We have studied the tissue distribution of a Cu-64 complex; 3-ethoxy-2-oxobutryaldehyde bis(thiosemicarbazone), Cu-64-KTS, in mice transplanted with an adenocarcinoma and in mice transplanted with fibrosarcoma. A control group of mice transplanted with fibrosarcoma was studied with Cu-64-C1 as controls. CuKTS is a recognized anti-tumor agent and it has been shown that the presence of copper is necessary for the anti-tumor effect.

Following the intravenous administration by tail vein of Cu-64-KTS in dimethylsulfoxide, groups of three animals were killed by cervical dislocation at 15 minutes, 1 hour, 4 hours, and 24 hours. Control animals were given Cu-64-C1

and killed at the same intervals in a similar manner. Blood, tumor, and 10 additional tissues were obtained, weighed and counted in an automatic gamma well counter. Decay corrections were made when necessary. Animals were given from 2-20 uCi of Cu-64-KTS containing 0.10-0.15 umol CuKTS. A percent dose/gm was estimated for each tissue.

Both the transplanted adenocarcinoma and fibrosarcoma remained low in concentrations of Cu-64 radioactivity throughout the study although the fibrosarcoma demonstrated a small steady increase in concentration up to 24 hours. An unexpected observation was a 20:1 ratio of lung to blood radioactivity up to one hour following administration of the Cu-64-KTS, and approximately 10:1 lung:liver ratio at the 15 minute interval. Control animals with Cu-64-C1 showed very low values for the same organ ratios.

It does not appear that Cu-64-KTS will be a promising agent for tumor scanning. The unexpectedly high lung concentrations suggest that further investigations should be performed to determine the mechanism of this action.

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*.

TUESDAY, 10:30-12:06

ROOM N215/217

SUBMITTED PAPERS I

A RADIOPHARMACEUTICAL QUALITY CONTROL PROGRAM IN HALF THE TIME. D.J. Battaglia, C. DeFries, and M.L. Cianci. Oscar B. Hunter Memorial Laboratory, Washington, D.C.

ARTIFACTS FOUND IN TESTING PERCENTAGE OF LABELING IN Tc-99m PYROPHOSPHATE - A SOLUTION TO THE PROBLEM. Ghanshyam C. Patel, Lelio G. Colombetti, and Steven Pinsky. Michael Reese Medical Center, Chicago, Ill.

99mTc-HUMAN SERUM ALBUMIN : EFFICIENT LABELING TECHNIQUE AND ITS IN VIVO STABILITY. Jong Il Lee, Ghanshyam C. Patel. Michael Reese Hospital, Chicago, Ill.

RADIOASSAY: NORMAL RANGE DETERMINATION. D.J. Battaglia, C. Burkhead, J. Welton, and M.L. Cianci. Oscar B. Hunter Memorial Laboratory, Washington, D.C.

FACTORS AFFECTING RELIABILITY OF THE GASTRIN RADIOIMMUNOASSAY. Pamela Trusten and Tim Shea. Department of Radiology, Harvard Medical School and Peter Bent Brigham Hospital, Boston, Mass.

FACTORS AFFECTING BINDING OF FOLIC ACID TO BETA-LACTOGLOBULIN. Tim Shea and Pamela Trusten. Department of Radiology, Harvard Medical School and Peter Bent Brigham Hospital, Boston, Mass.

IN VITRO ANALYSIS OF THE PLASMA CLOTTING PROCESS USING Tc-99m LABELED AGGREGATES. Sheldon J. Ashley. Flushing Hospital and Medical Center, Flushing, N.Y.

A PROCEDURE FOR EVALUATING PATIENTS WITH THYROID CANCER. Lucille Bunz and Malcolm R. Powell. 350 Parnassus Ave., Suite 908, San Francisco, Calif.

WEDNESDAY, 10:30-12:06

ROOM N215/217

SUBMITTED PAPERS II

THE TECHNOLOGIST'S ROLE IN COMPREHENSIVE RENAL FUNCTION STUDY. F.N. Kontzen, M. Barber, E.V. Dubovsky, W.N. Tauxe. Veterans Administration Hospital, Birmingham, Ala.

COLOR IMAGING AND SELECTIVE CURVE GENERATION WITH COMPUTERIZED RENOGAM IN KIDNEY TRANSPLANT MONITORING. John Mullins and Sheldon Chelsy. Division of Nuclear Medicine, UCLA-Harbor General Hospital, Torrance, Calif.

A SIMPLE, EFFECTIVE METHOD FOR AEROSOL INHALATION SCANNING. Robert Salk and John Mullins. Division of Nuclear Medicine, Harbor General Hospital, Torrance, Calif.

CONTAMINATION OF NON-DISPOSABLE XENON VENTILATION SYSTEMS. George B. Case, Philip Matin, C.B. Martin. Roseville Community Hospital, Roseville, Calif.

PRECAUTIONS AND CONSIDERATIONS FOR RADIOIODINE-131 THERAPY PATIENTS. Marie A. Costanza and Barbara C. Fasiska. Presbyterian University Hospital and the Radiation Health Physics Department of the University of Pittsburgh, Pittsburgh, Pa.

THE PARTICIPATION OF NUCLEAR MEDICINE TECHNOLOGISTS IN RADIATION ACCIDENT MANAGEMENT. Harold D. Hodges and William D. Gibbs. Medical and Health Sciences Division, Oak Ridge Associated Universities, Oak Ridge, Tenn.

BONE IMAGING ARTIFACTS. Sue Weiss and James J. Conway. The Children's Memorial Hospital, Chicago, Ill.

RECOGNITION OF SCAN ARTIFACTS - TECHNOLOGISTS' ROLE. Janet M. Marks, Russell Cain, Diane Winston, James Wing, Anne Schleif, Ronald Burks, and William Burt. VA Hospital, San Diego, Calif.

THURSDAY, 10:30-12:06

ROOM N215/217

SUBMITTED PAPERS III

A QUALITY CONTROL PROCEDURE FOR INSTITUTING USE OF A NEW RADIONUCLIDE. Theodore Sorandes. University of Maryland Hospital, Baltimore, Md.

DOSE CALIBRATOR FOIBLES. Walter L. Robinson. Bionucleonics, Inc., Fanwood, N.J.

A MULTI-DETECTOR SCANNER FOR WHOLE BODY IMAGING. David J. Phegley, Donald R. Bernier, and R. Edward Coleman. Washington University School of Medicine, St. Louis, Mo.

THE USE OF TANTALUM-TUBE COLLIMATORS FOR SCINTILLATION CAMERAS. S.J. Swann, D.W. Palmer, L. Kaufman, C.B. Lim, and P.B. Hoffer. University of California, San Francisco, Calif.

QUALITY ASSURANCE OF WHOLE BODY TABLES. Elbert L. Lands, Bhailal Patel. The University of Chicago, Chicago, Ill.

COMPUTER ASSISTED INSTRUMENT CALIBRATION AND QUALITY CONTROL. Michael J. Tuscan, David A. Weber, and Robert E. O'Mara. University of Rochester Medical Center, Rochester, N.Y.

QUALITY ASSURANCE BREAKDOWNS (QUABS) IN NUCLEAR MEDICINE PATIENT CARE. L. David Wells and Buck A. Rhodes. Kansas University Medical Center, Kansas City, Kans.

POSITRON EMISSION SCANNING: A NEW DIRECTION FOR NUCLEAR MEDICINE IMAGING SYSTEMS. Mary T. Clarke, Donald R. Bernier, Michael J. Welch, R. Edward Coleman, Michel M. Ter-Pogossian. Washington University School of Medicine, St. Louis, Mo.

FRIDAY, 10:30-12:06

ROOM N215/217

SUBMITTED PAPERS IV

ROUTINE LIVER FLOW STUDIES: A REAPPRAISAL. W.J. Klenke, J.L. Giga, and R.F. Carretta. Wilford Hall, USAF Medical Center, Lackland AFB, Tex.

ACCURATE PATIENT POSITIONING FOR HEPATIC SCINTI-ANGIOGRAPHY. J.L. Giga, C.J. Stankiewicz, D.T. Kopp, and R.F. Carretta. Wilford Hall USAF Medical Center, Lackland AFB, Tex.

TECHNICAL LIMITATIONS IN DETECTION OF HEPATIC METASTASES. Jane M. Neill and Lou Bifolck.

Department of Radiology, Harvard Medical School and Peter Bent Brigham Hospital, Boston, Mass.

FUNCTIONAL GASTROESOPHAGEAL SCINTISCANNING. John P. Capuzzi, Carol Grabowski, Peter Hyams, Leon S. Malmud, and Robert S. Fisher. Temple University Hospital, Philadelphia, Pa.

TECHNIQUE FOR USING Tc99m HIDA FOR GALLBLADDER FUNCTION STUDY. Theodore Sorandes, Kenneth Tyler, and Steve Sikorski. University of Maryland Hospital, Baltimore, Md.

DEVELOPMENT OF A RELIABLE AND REPRODUCIBLE METHOD FOR DETERMINING MYOCARDIAL/BACKGROUND RATIOS FROM Tl-201 MYOCARDIAL IMAGES. Ann Coleman, Michael Robertson, David L. Williams, and Glenn W. Hamilton. Veterans Administration Hospital, Seattle, Wash.

CAMERA AND PROBE POSITIONING IN GATED LEFT VENTRICULAR FUNCTION STUDIES. Bonnie A. Mack, Catherine F. Quigley, Stephen L. Bacharach, Michael V. Green, and Gerald S. Johnston. National Institutes of Health, Bethesda, Md.

A COMPARATIVE EVALUATION OF IMAGING DEVICES FOR MYOCARDIAL STUDIES USING THALLIUM-201. Henry F. Manspeaker, William Montgomery, William Schafer, James K. Langan, H. William Strauss, and Bertram Pitt. The Johns Hopkins Hospital, Baltimore, Md.

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