

SERENDIPITY IN CISTERNOGRAPHY

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The entire clinical presentation should be considered when evaluating the results of nuclear medicine procedures. An unexpected finding of renal obstruction was noted in a patient undergoing cisternography.

It is important to examine all of the data critically when evaluating radioisotope images, not focusing on just the apparent problem, but attempting to ex-

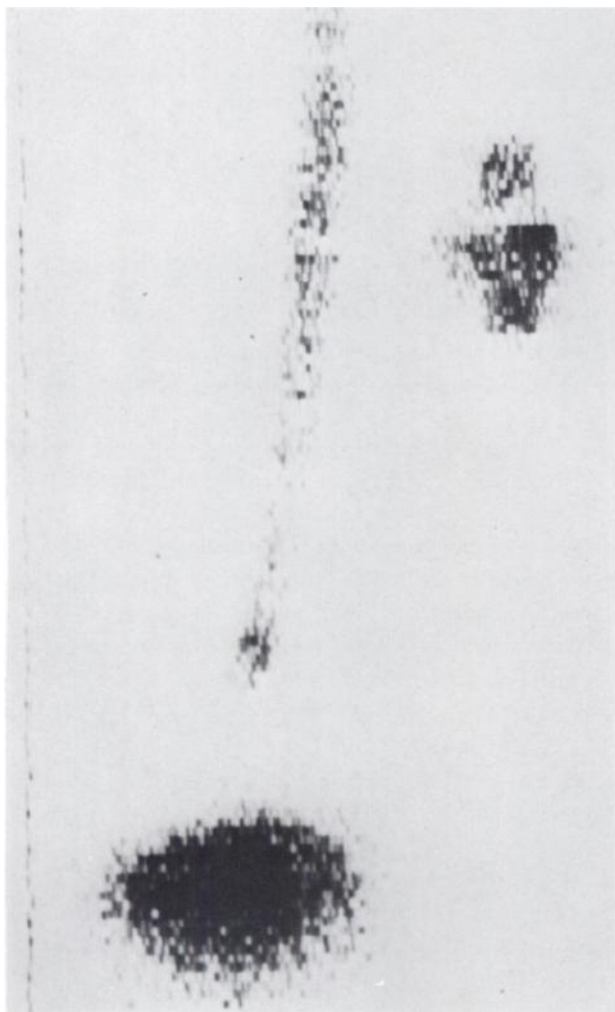


FIG. 1. Scan of back 2 hr after lumbar subarachnoid injection of $^{109}\text{Yb-DTPA}$ showing abnormal accumulation of radioactivity in right kidney.



FIG. 2. Excretory urogram confirming right hydronephrosis.

plain all of the findings. Delayed renal excretion allowed us to diagnose asymptomatic renal obstruction in a patient who had a cisternographic examination.

A 64-year-old retired bus driver was referred to the Nuclear Medicine Department because of unexplained memory loss and disorientation. On examination there were no physical abnormalities. The blood pressure was 150/90. The blood count, urinalysis, blood sugar, and cholesterol were normal. The BUN was 19 mg/100 ml. The spinal fluid, EEG, and brain scan were normal. A right brachial arterio-

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gram and encephalogram demonstrated hydrocephalus.

A lumbar cisternogram using 1 mCi of $^{169}\text{Yb-Ca-DTPA}$ produced low basal cistern activity at 2 and 6 hr. The counting rate was too low to permit scanning at 24 hr. Lumbar scan (Fig. 1) at 2 and 6 hr demonstrated asymmetric persistent visualization of the right kidney. Subsequently, an intravenous pyelogram (Fig. 2) confirmed a right hydroureter and hydro-nephrosis and demonstrated a calcified aortic aneurysm which was thought to be the cause of the ureteral obstruction.

An understanding of pharmacological principles allows one to predict the biological behavior of administered cisternographic radionuclides. Those radionuclides attached to albumin, such as $^{131}\text{I-IHSA}$, enter the metabolic pool after reaching the blood

stream, while those that are chelated are excreted into the urine. Hence, in contrast to $^{131}\text{I-IHSA}$, $^{169}\text{Yb-DTPA}$ ($T_{1/2}$, 32 days; principle gamma rays, $0.177 + 0.198$ MeV), when used for cisternography, is rapidly excreted by the kidneys after it enters the vascular compartment (1). Our experience using this agent for renal scanning indicates that persistent radioactivity in one kidney usually implies hydro-nephrosis or caliectasis. The demonstration of prolonged radioactivity over one kidney during cisternography with $^{169}\text{Yb-DTPA}$ or $^{111}\text{In-DTPA}$ should be considered abnormal.

REFERENCE

1. WAGNER HN, HOSAIN F, DELAND FH, et al: A new radiopharmaceutical for cisternography: Chelated ytterbium 169. *Radiology* 95: 121-125, 1970

THE SOCIETY OF NUCLEAR MEDICINE 20th ANNUAL MEETING

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FOURTH CALL FOR SCIENTIFIC EXHIBITS

The Scientific Exhibits Committee announces that abstracts of exhibits are now being reviewed for the 20th Annual Meeting. Abstracts of exhibits, large or small, are welcomed from members, nonmembers, and organizations. Exhibits supporting scientific papers are encouraged. View boxes for transilluminated material will be available.

Abstract Format: Abstracts must be submitted on a special abstract form for scientific exhibits which is available from the Society of Nuclear Medicine, 211 E. 43rd Street, New York, New York 10017.

Scientific Exhibit Awards: The Society is pleased to announce the presentation of Gold Medal, Silver Medal, and Bronze Medal awards for outstanding exhibits in each of the following categories: Clinical Nuclear Medicine; Instructional; and Biophysics and Instrumentation. Judging is based on scientific merit, originality, display format, and appearance. Judging will occur on the first full meeting day.

Abstract Deadline: Abstracts should be submitted on or before March 1, 1973 to:

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