

AIDS PATIENTS MAY BENEFIT MORE FROM WHOLE-BODY SCANNING THAN LUNG STUDIES

Although physicians have been using gallium-67 lung studies in patients suspected of acquired immunodeficiency syndrome (AIDS), a group at the University of California at San Francisco (UCSF) recommends that these physicians perform a whole-body scan as opposed to limited lung imaging.

"Whole-body gallium scanning is useful in detecting multifocal, extrapulmonary disease, and can be used to assess the supra- and infradiaphragmatic extent of disease in AIDS," said Richard A. Sollitto, MD, of UCSF's Department of Radiology and Nuclear Medicine Section.

Gallium-67 lung studies are efficacious in diagnosing *Pneumocystis carinii* pneumonia (PCP), one of the most common opportunistic infections found in AIDS patients (see *Newsline*, Oct. 1985, pp. 1109-1112).

AIDS patients are often identified by the presence of PCP or Kaposi's sarcoma, but "most researchers believe that we're just seeing the tip of the iceberg, and that these opportunistic infections probably represent an extreme of the AIDS spectrum," noted Dr. Sollitto, who presented data, obtained over a 20-month period on 41 AIDS patients, at the annual meeting of the Radiological Society of North America (RSNA) last November. His group found significant gallium uptake in the abdomen in approximately 50% of these cases.

Lung infections in AIDS include a broad range of opportunistic infections, such as typical and atypical mycobacteria, adenovirus, cytomegalovirus, *Cryptococcus*, legionnaire's disease, *Nocardia*, and other fungal diseases.

The gastrointestinal tract infections

in AIDS are equally as broad, noted Dr. Sollitto, and include cytomegalovirus infection, cryptosporidiosis, *Salmonella*, *Shigella*, *Isospora belli*, and *Campylobacter*.

Dr. Sollitto recommended that physicians who now do lung studies in AIDS patients include at least an anterior whole-body image. His group obtained whole-body and thoracic spot images 48 hours after injection of gallium-67 citrate. Delayed spot images of the abdomen were acquired as needed to confirm abnormal infradiaphragmatic labeling.

The whole-body scan is more useful to the patient's total management since the clinician will be better apprised of other sites of infection and/or neoplasm. In some cases, for example, radiotherapists will irradiate peripheral Kaposi's lesions; however, if the radiotherapist knows that there is also infradiaphragmatic spread of, perhaps, *Mycobacterium tuberculosis*, the therapist might be less prone to irradiate the patient, explained Dr. Sollitto.

Based on cumulative experience, however, the UCSF group did observe that disseminated Kaposi's sarcoma is relatively poorly labeled with gallium. In two cases, for example, where the patients succumbed due to disseminated Kaposi's involvement of the lungs, gastrointestinal tract, and liver (autopsy-proven three to four days after the whole-body gallium-67 scan), the studies did not show abnormal gallium labeling.

Ideally, most physicians treating AIDS patients would find it useful to obtain a whole-body gallium-67 scan at the time of diagnosis. A more practical approach, however, is to obtain



*Gallium-67 whole-body image at 48 hours in AIDS patient with recurrent *Pneumocystis carinii* pneumonia and persistent diarrhea. "Grade 2 pulmonary uptake was confirmed with spot images; abnormal left colonic uptake was confirmed with 72-hour spot image. At the time of this study, the patient had disseminated cytomegalovirus infection and stool cultures positive for *Candida albicans*," explained Robert A. Sollitto, MD. (Courtesy of UCSF)*

the whole-body image when patients are referred to a nuclear medicine department for lung complaints.

"Let me emphasize that a strong thread of hopelessness runs through the general public, as well as the medical community, about AIDS because most patients face fatal outcomes. Historically, there was a similar feeling about tuberculosis, and we knew how to diagnose it far better than we knew how to treat it for many years. We have to keep moving with AIDS, and we have to believe that therapy will catch up with our techniques of diagnosis," said Dr. Sollitto.

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