



**FIGURE 1**  
Anterior view of chest 48 hr after intravenous gallium-67.

#### References

1. Vazquez R, Oates E, Sarno RC, Fay J, Gale DR. Gallium-67 breast uptake in a patient with hypothalamic granuloma (sarcoid). *J Nucl Med* 1988; 29:118-121.

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**REPLY:** Dr. Boxen's case and illustrations are interesting. The common causes of symmetric breast uptake fall into three groups: hyperprolactinemia (normal physiologic, drug-induced, renal failure), mammary duct hyperplasia (estrogen therapy, estrogen-containing oral contraceptives), and gynecomastia (idiopathic, orchiectomy) (1). We felt that the breast activity in our case was most likely related to the known elevated prolactin level although certainly estrogen may have contributed to the finding as well.

#### Reference

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**REPLY:** O'Connor et al. have described another cause of pulmonary gallium uptake which may occur in intravenous drug abusers, a population which is at risk for AIDS and, therefore, frequently undergoes gallium scanning. Although the specificity in the AIDS patient of diffuse pulmonary uptake of gallium for *Pneumocystis carinii* pneumonia has been reported to range from 74% (1) to 90% (2) depending upon the interpretation criteria applied, this high specificity in part is due to the high prevalence of PCP in the AIDS population

(3). Other causes of infection, particularly CMV, and inflammation, including drug reactions and unexplained nonspecific inflammation, also occur in the AIDS population and have been associated with diffusely increased pulmonary uptake of Gallium (2,4,5). Pulmonary talc granulomatosis may be a less common cause of respiratory symptoms in the AIDS population but it is useful to be reminded of this possibility.

#### References

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#### Gallium-67 Scans in Acquired Immunodeficiency Syndrome

**TO THE EDITOR:** In a recent review, Kramer et al. published the results of gallium-67 (<sup>67</sup>Ga) scans of the chest in 71 adult patients suspected of having acquired immunodeficiency syndrome (AIDS), and who presented with fever and/or res-

piratory symptoms (1). Seventy of these patients were homosexual males, the other patient was a female with Von Willebrand's disease. There were no i.v. drug abusers represented in their study.

Intravenous drug abusers comprise ~17% of AIDS cases in the United States (2), although they have accounted for <2% of AIDS victims here in Canada (3). Intravenous drug abusers are at increased risk for a variety of disorders, including pulmonary talc granulomatosis (4). To date there has been only occasional reference to pulmonary talc granulomatosis (PTG) in the literature on AIDS-related pulmonary disease.

We recently reported a case of PTG that clinically simulated *Pneumocystis carinii* pneumonia (5). The patient was a 32-yr-old HIV-positive bisexual male intravenous drug abuser who presented with respiratory symptoms. Routine chest radiology showed some nonspecific changes in the lower regions of both lungs. However, <sup>67</sup>Ga scintigraphy revealed marked bilateral diffuse pulmonary uptake. Transbronchial biopsy and bronchoalveolar lavage resulted in a definitive diagnosis of pulmonary talc granulomatosis. Thus pulmonary talc granulomatosis should be added to the list of pulmonary lesions that give rise to a positive <sup>67</sup>Ga lung scan in patients with or at risk for AIDS.

#### References

1. Kramer EL, Sanger JJ, Garay SM, et al. Gallium-67 scans of the chest in patients with acquired immunodeficiency syndrome. *J Nucl Med* 1987; 28:1107-1114.
2. Fauci AS, Macher AM, Longo DL, et al. NIH Conference. Acquired immunodeficiency syndrome: epidemiologic, clinical, immunologic and therapeutic considerations. *Ann Intern Med* 1984; 100:92-106.
3. Elmslie K, Nault P. Epidemiologic reports: AIDS surveillance in Canada. *Can Med Assoc J* 1986; 135:780.
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#### Prognostic Value and Pathophysiologic Significance of the Rim Sign in Cholescintigraphy

**TO THE EDITOR:** It was with great interest that we read the article by Meekin et al. in the *JNM* (1). All of their 27 patients had been fasting at least 2 hr but <48 hr prior to the study. It was mentioned that none of them received cholecystokinins. However, we would like to know whether some or all of them received low dose morphine (2) and/or a fatty meal (3). Furthermore, for a quicker diagnosis, ultrasonography may provide a safer alternative to scintigraphy, because pericholecystic edema is visualized as hypoechoic areas and triple-layered thick-walled gallbladder is characteristic in acute cholecystitis.

#### References

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**REPLY:** In reply to Dr. Taher's question, no patient in our study received morphine or a fatty meal prior to the study. Pericholecystic fluid, usually a sign of gallbladder perforation, is seen in only 10-25% of cases of acute cholecystitis with ultrasonography and may also be seen with pancreatitis, peptic ulcer, liver abscess, peritonitis, or hemorrhage from a rupture of a hepatic adenoma or an ectopic gestation (1,2). Marchal et al. described continuous or localized anechoicities within a thickened, irregular wall as a sign of acute cholecystitis and ascribed it to a zone of edema (3). One study found anechoic areas in the wall of 71% of patients with acute cholecystitis (4). However, gallbladder thickening with or without anechoicities has been seen in a variety of conditions unassociated with intrinsic gallbladder disease. The majority of conditions with associated wall thickening have a common physiological basis for this finding, i.e., increased transudation of fluid into the extravascular space secondary to decreased plasma oncotic pressure or increased portal or systemic venous pressure. These conditions include hypoproteinemia, cirrhosis, congestive heart failure, renal failure, focal obstruction of gallbladder lymphatic drainage, e.g. by a porta hepatis mass (5). In a comparative study of 100 patients with pathologically proven acute cholecystitis, realtime ultrasonography had a sensitivity of 24% using strict criteria (wall edema and/or pericholecystic fluid), 86% using liberal and less specific criteria (stones, thick wall, nonshadowing echo and/or Murphy's sign), compared to 97% for cholescintigraphy (6). Another study comparing real time ultrasonography with cholescintigraphy found similar sensitivities for confirmed acute cholecystitis (97%), but scintigraphy demonstrated better specificity (93% vs. 64%) (7). In this study, echogenic foci with acoustical shadowing as well as wall edema, and/or pericholecystic fluid was used as diagnostic criteria. Therefore, we do not agree with Dr. Taher's suggestion that ultrasonography might be preferable to cholescintigraphy for the routine diagnosis of acute cholecystitis. However, in the setting of prolonged fasting or intercurrent illness, where cholescintigraphy is still sensitive, but less specific than desired, gallbladder sonography may be a reasonable alternative (8).

Clinically, the rim sign is an ancillary finding for the diagnosis of acute cholecystitis in the setting of non-visualization of the gallbladder. It appears to be an indicator of patients presenting at a later stage of the pathological spectrum of acute cholecystitis and, therefore, at increased risk for complications. If the sign holds up as specific for acute cholecystitis, it may also be helpful in decreasing the length of the