LETTERS TO THE EDITOR

size of the particles is very important, since a preparation that had one LSD (14,000 particles/kg or about 1 million particles per human dose) of 15.8 μ particles will correspond to only 2593 particles of 115 μ diameter, which in turn would result in a completely unsatisfactory, patchy lung scan.

We conclude by saying that the control of the size of the particles is more important from the standpoint of image quality than of toxicity.

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REFERENCE


Localisation of Gallium-67 in Aspergilloma

Aspergillomas are cavities in the lung colonized by Aspergillus species, most frequently by A. fumigatus. It is commonly found in lung tissue destroyed by tuberculosis, sarcoidosis, pulmonary infarct, bronchiectasis, lung abscesses, neoplasm, lung cyst, pneumoconiosis, and histoplasmosis (1). The “fungus ball” has a characteristic appearance on chest radiograph and is confirmed by the presence of antibodies to A. fumigatus in serum. Increased concentration of Ga-67 citrate has been reported in a wide variety of pulmonary disorders and this communication reports gallium localization in an aspergilloma.

Eight years before this admission a 58-year-old man was successfully treated for atypical pulmonary tuberculosis caused by Mycobacterium Kansasii. Since admission, a chest radiograph and tomograms revealed a “fungus ball” (Fig. 1), however, tuberculosis was considered inactive. Because of persistent hemoptysis for 1 wk, he was admitted with the possible diagnosis of lung cancer. A gallium scan demonstrated increased concentration of the tracer in the right upper lobe, the same region as the “fungus ball” (Fig. 2). His right upper lobe was resected.

The surgical specimen was dissected, and tissue samples obtained from the “fungus ball” lining of the cavity, and adjacent normal appearing lung tissue were assayed in gamma well counter. There were 417 cps per gram in the fungus, 215 in the lining of the cavity, and 83 in the normal lung tissue. Histologic examination of the “fungus ball” revealed septated branching hyphae consistent with Aspergillus species, numerous red cells, and a few inflammatory cells.

FIG. 1. Tomography of the right upper lung region demonstrating mycetoma with surrounding crescent of air.

FIG. 2. Posterior Gallium-67 citrate image showing abnormal uptake in the right upper lung field (arrow).

Localization of strontium in aspergillus infection of the lung has been described (3,4) and has been recommended as an aid in the diagnosis of pulmonary aspergillosis (5). Rohatgi et al reported strontium uptake in other pulmonary disorders, however, and thus strontium is not specific in the diagnosis of aspergillosis. Since gallium also concentrates in a number of inflammatory diseases, it too is not specific but when increased gallium uptake is observed in a region of infiltrate on the chest radiograph, Aspergillus infection should be included in the differential diagnosis. Gallium studies may be of potential value in localizing extra pulmonary Aspergillus infection such as aspergillus cerebral abscess.

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REFERENCES


Absent Myocardial Uptake of T1-201 under Stress, in Spite of Anatomically Normal Coronary Arteries

This case report demonstrates a marked decrease in thallium-201 myocardial uptake during a severe heart attack of exercise-induced stress in a patient with normal coronary arteries.

A 48-year-old man presented with a 5-year history of progressive angina pectoris. Over the 2-mo period before his hospitalization he developed recurrent episodes of near-syncope, these being associated with angina precipitated by physical and emotional stress.

During stress thallium scintigraphy in a dedicated area within the Nuclear Medicine Department, at Bruce stage II and a heart