

myocardium in patient with healed anterior myocardial infarction. *J Am Coll Cardiol* 1992;19:141a.

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## The Role of Gallium Scanning in Staging Lymphoma

**TO THE EDITOR:** Fox et al. (1) suggest that routine  $^{67}\text{Ga}$ -citrate imaging in staging untreated patients with lymphoma is not currently justified. In reaching their conclusion, these authors have focused on test sensitivity; however, the critical issue should be whether management strategy is modified due to abnormalities on the  $^{67}\text{Ga}$  scan which are not prospectively detected by other investigations. In this regard, data are emerging which illustrate the contribution of  $^{67}\text{Ga}$  scintigraphy to treatment plans in some patients with Hodgkin's disease.

Jochelson et al. (2) demonstrated that  $^{67}\text{Ga}$  imaging optimized radiotherapy treatment plans in 3 of 26 (12%) patients with Hodgkin's disease, by providing information incremental to chest radiographs and CT scans. In a preliminary report from my institution (3), a similar proportion [2 of 13 (15%)] of newly presenting patients with Hodgkin's disease had initially intended treatment altered because of lesions prospectively identified by  $^{67}\text{Ga}$  scan alone. Other investigators have suggested that the combination of  $^{67}\text{Ga}$  scintigraphy and CT scanning may be valuable in reducing the need for staging laparotomy in selected patients with Hodgkin's disease (4). In contrast to early publications quoted by Fox et al. (1), these recent series are characterized by high dose  $^{67}\text{Ga}$  imaging with modern gamma cameras and improved collimation.

In non-Hodgkin's lymphoma, I agree that the  $^{67}\text{Ga}$  scan has less influence on initial treatment decisions (3), probably because precise anatomic delineation of disease is not as important as pathologic status (5).

In summary, recent reports indicate an important adjunctive role for  $^{67}\text{Ga}$  scintigraphy in staging Hodgkin's disease. Some patients are "upstaged" as a result of the  $^{67}\text{Ga}$  scan, a feature which may justify its routine use. Further studies examining the impact of  $^{67}\text{Ga}$  imaging on treatment decisions are warranted.

### REFERENCES

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**REPLY:** Dr. Larcos has suggested a greater role for gallium imaging in the pretreatment evaluation of lymphoma patients than our paper suggests (1). Several references are provided to defend this position. In one series, pretreatment gallium scanning altered radiation treatment planning on 3 of 26 patients with Hodgkin's disease, but did not alter clinical staging (2). In another series, 16 Hodgkin's patients with normal abdominal staging CAT scans and no gallium uptake in the abdomen proved to have negative abdominal staging laparotomy (3).

The staging evaluation of Hodgkin's disease is laborious, essential and controversial. The role of staging laparotomy has been argued for years; the role of bipedal lymphangiography is not fully resolved despite its continued, routine use at our institution for almost twenty years.

We believe that all patients with Hodgkin's disease should undergo, when feasible, pretreatment gallium imaging. But under what circumstances will a patient be truly "upstaged," and will such "upstaging" reliably alter treatment planning? For example, will a patient with clinical Stage IA disease in the neck, whose mediastinum and abdomen are normal by plain radiographs, CT scans and lymphangiogram, have his further workup altered by gallium positivity in the mediastinum? The answer is no, as staging laparotomy is still indicated, in our opinion. If the same patient were to show gallium positivity only in the abdomen, would we have enough confidence to obviate laparotomy, and to "upstage" the patient to IIIA and possibly commit him to chemotherapy? The answer, in our opinion, is no.

Gallium scanning has not yet worked its way into the staging algorithm for Hodgkin's disease—we fully agree that its value can only be determined by further study. We advocate pretreatment gallium imaging in all patients with Hodgkin's disease to help gather this data.

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