structure and the clearance of encapsulated bacteria is shown in some other works (*14,15*). The clearance function was demonstrated to be related to the volume of functional transplant tissue (*13*), although it is also proven that ectopic splenic tissue assures less splenic protective function than the same volume of either original spleen or eutopic remnant after artery ligation (*5,16*).

The regaining function of splenic tissue is probably related to the patient's age at the time of splenic autotransplantation (*17*). The different frequencies of occasional splenosis found in children in comparison with adults, as stated in the work of Corraza (*6*), is concordant with Pearson's study in children (*9*). No differences were found under controlled therapeutic conditions in our study, although there were relatively small groups of patients of different ages. The same is reported in other works as well (*18*).

From the numerous data cited in the literature, it is clear that neither the splenic weight or volume nor isolated clearance function or the mass of lymphatic tissue alone can explain the occasional failure of protection from infection in patients with splenosis, resulting in OPSI. Scintigraphy with spherocytes can add some information about the transplant function. We fully agree with Dr. Cornelius that much work remains to be done and we are aware of existing quesitons in the field.

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Three-Phase Bone Scan in Muscular Sarcoidosis

TO THE EDITOR: I read with considerable interest the article entitled, "Isolated Muscular Sarcoidosis Causing Fever of Unknown Origin: The Value of Gallium-67 Imaging," by Patel, Krasnow, Sebastian, Collier, Hellman, and Isitman in the February 1991 issue of the *Journal* (pages 319–321). Since I was intimately involved with that case, permit me to add a few details that apparently were overlooked. The patient was admitted to this VA hospital, where the described history was elicited, and laboratory and imaging results were obtained. The neurologic examination was remarkable for decreased pain sensation and fine touch in both lower extremities, especially the calves. Contrary to what was reported, the total-body bone scan obtained was *not* negative. Because the patient came to this institution with a history of lower extremity myalgias, he was appropriately scheduled for a three-phase bone scan. Following the intravenous administration of 20.9 mCi of ^{99m}Tc-methylene diphosphonate (MDP), the flow study (Fig. 1) revealed increased perfusion to both tibial regions, while the blood-pool image (Fig. 2) showed appreciable but asymmetric (left more than right) hyperemia in these same areas. The delayed views (Fig. 3) were remarkable for patchy increased uptake in the region of both the mid-tibia. Because all three phases of the bone scan were positive in the tibial regions, a gallium scan was performed to assess better the nature of these abnormalities.

As noted by the authors, gallium uptake in muscular sarcoidosis is not new (*1,2*) and may be localized to isolated sites, such as the orbital muscles (*3*) or the myocardium (*4*). On a gallium scan, muscular sarcoidosis must be distinguished from cutaneous sarcoidosis (*5–7*), which is most easily done at the time of imaging by eliciting an appropriate history from the patient and perform-

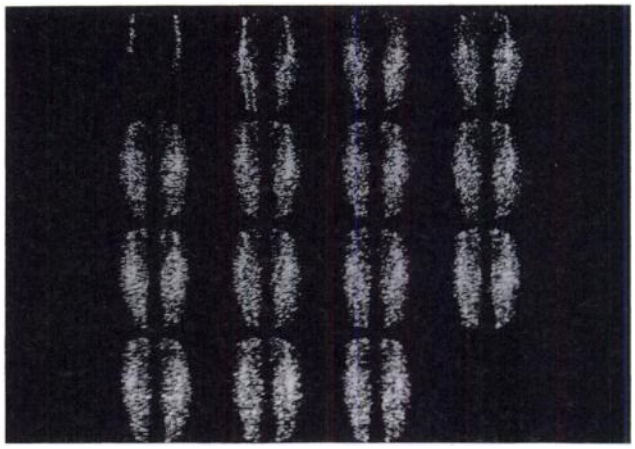

FIGURE 1. Flow study with ^{99m}Tc-MDP over the anterior tibial regions shows patchy increased perfusion in the soft tissues.

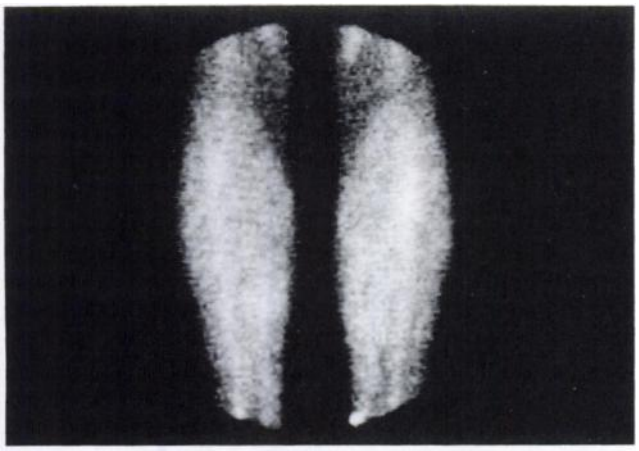

FIGURE 2. Blood-pool image over the anterior tibial regions reveals patchy hyperemia in what appears to be the calves.

ing a brief physical exam. In this case, the patient presented with severe myalgias but lacked cutaneous lesions, making muscular rather than cutaneous involvement most likely. Muscular sarcoidosis must also be differentiated from tumoral calcinosis (*8*, *9*). Here basic laboratory data are helpful: the serum calcium-phosphorus product may be exceeded; 1,25-dihydroxycholecalciferol levels may be elevated; or hyperparathyroidism may be present in tumoral calcinosis (*8*). In this case, serum calcium was slightly elevated at 5.5 mEq/liter (normal, 4.2–5.2 mEq/liter), but serum phosphorus was well within normal limits at 3.2 mg/dl (normal, 2.5–4./5 mg/dl). Neither a 1,25-dihydroxycholecalciferol nor a PTH level was obtained in this case.

In this patient with an active inflammatory process such as sarcoidosis, the patchy increased perfusion and hyperemia during the first two phases of the bone scan, as seen here in the tibial regions, would be expected. The mild, patchy uptake seen on the delayed bone scan images, however, is not what would be expected with osseous sarcoidosis (*10*), but rather with an inflammatory or infectious soft-tissue process that is producing a periosteal reaction. The three-phase bone scan findings thus accurately reflect the true clinical picture found in this region. Surprisingly, this appears to be the first reported case of a positive three-phase bone scan in muscular sarcoidosis. This case therefore illustrates the importance not only of designing a nuclear medicine study to assess the specific presentation of the patient, but also of extracting as much information as possible from the images. In this case, the bone scan findings indicated the presence of an active inflammatory process in the soft tissues of the tibial regions (supported subsequently by the gallium scan), which directed the clinical team to the procedure finally providing the diagnosis, muscle biopsy.

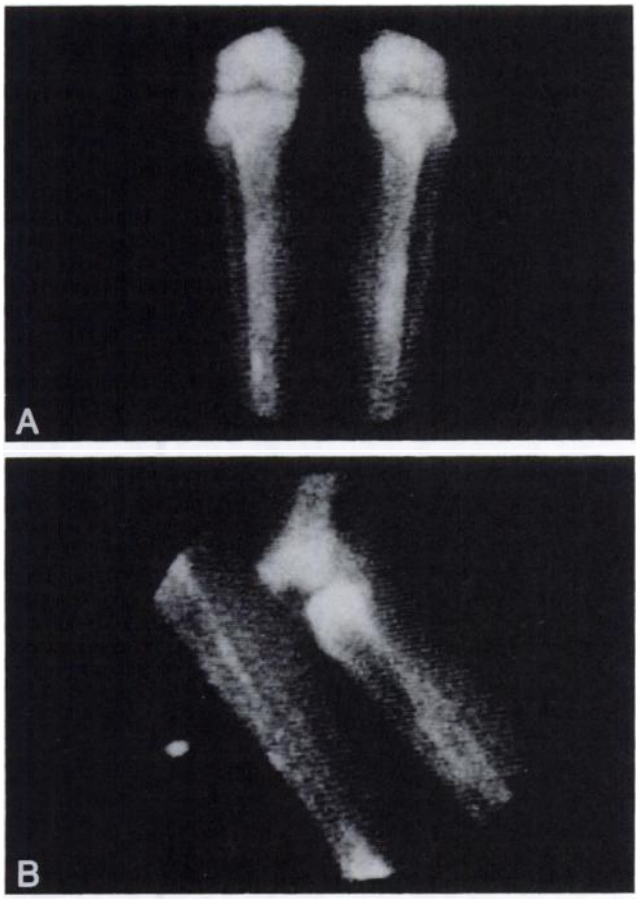

FIGURE 3. Delayed bone scan images of the tibia demonstrate patchy mild increased uptake in the mid-tibia, suggestive of a periosteal reaction to surrounding inflammation. (A) Anterior view. (B) Right medial/left lateral view. The marker designates the right lower extremity.

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Gallium-67/Stable Gadolinium Antagonism

TO THE EDITOR: We read with great interest the report by Hattner and White (*1*), which suggests that prior administration of gadopentetate dimeglumine may alter the biodistribution of ^{67}Ga. This is the first reported possible drug interaction with