An Incidental Finding of Rhabdomyolysis on Bone Scintigraphy: Case Report

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A patient with back pain had a technetium-99m methylene diphosphonate scan to rule out bony pathology to the spine. The bone scan demonstrated rhabdomyolysis involving the teres minor and major, as well as the infraspinous muscles on the right side and to a lesser extent in the triceps bilaterally. Upon interviewing the patient, it was discovered that the patient had begun a rigorous weight training program at a local gymnasium a few days previously.

DISCUSSION

This case demonstrates the role of bone scintigraphy in resolving focal rhabdomyolysis after muscle trauma. Bone scintigraphy with \(^{99m}\)Tc-MDP is not only a sensitive indicator of muscle damage, but the amount of uptake is proportional to the extent of myonecrosis (2). In sports medicine, this could be a valuable tool in discriminating bone or muscle

FIG. 1. Uptake of Tc-MDP in the teres major and minor, as well as to the infraspinous muscle.
In the evaluation of athletes with pain in the extremities, it is important to note that following strenuous exercise, such as jogging, muscle uptake may be noted, also due to rhabdomyolysis (3). The bone scan can be very helpful in cases where the localization of the muscle injury is not apparent on physical examination (2).

The method of uptake in rhabdomyolysis is probably similar to that of cardiac muscle. The uptake of technetium diphosphonates in acute myocardial infarction is due to the phosphates being attracted to the influx of calcium to these sites. Calcium in acutely damaged skeletal muscle has been found primarily in sarcoplasmic reticulum, with less in the myofibrils and considerably less in the mitochondria (4).

REFERENCES
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