Penile Implant on Bone Scan Imaging: A Case Study

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We present an unusual case of the incidental finding of a penile implant on a whole-body bone scan obtained for back pain in a patient with osteoporosis and vertebral body fractures. On 2 separate occasions, this patient underwent 3-h delayed whole-body bone scanning with ^{99m}Tc-methylene diphosphonate. The images showed acute and then subacute vertebral body fractures. On both imaging occasions, the bone scan that included the region of the implant clearly showed the penis, but visualization was better on the second scan. Penile implants have not been described in the nuclear medicine literature, and it is important to recognize the diagnostic possibilities when penile photopenia is identified.

Key Words: penile implant; ^{99m}Tc-methylene diphosphonate; bone scan

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On most bone scans, the penis is not seen. One may be able to see urinary contamination over the scrotum but not the penis itself. The penis can be seen on a gastrointestinal-bleeding scan or on other scans of tagged red blood cells, especially with arousal. We present a case of a patient with a penile implant that was incidentally noticeable during whole-body bone scanning.

CASE REPORT

In 2002, an 87-y-old man presented to our clinic with back discomfort, osteoporosis, and vertebral body compression fractures. We were asked to look for new vertebral body fractures to account for the patient's new discomfort. Three-phase whole-body bone scanning was performed after injection of 925 MBq of ^{99m}Tc-methylene diphosphonate. Blood-flow and blood-pool images were obtained over the pelvis and lumbar spine. Three hours later, a whole-body bone scan and multiple spot-views of the pelvis were obtained. The whole-body scan showed 2 resolving vertebral body fractures at T8 and T12 but no evidence of acute fractures. Not normally identified, the penis was plainly seen on this scan (Fig. 1). The penis had peripheral activity

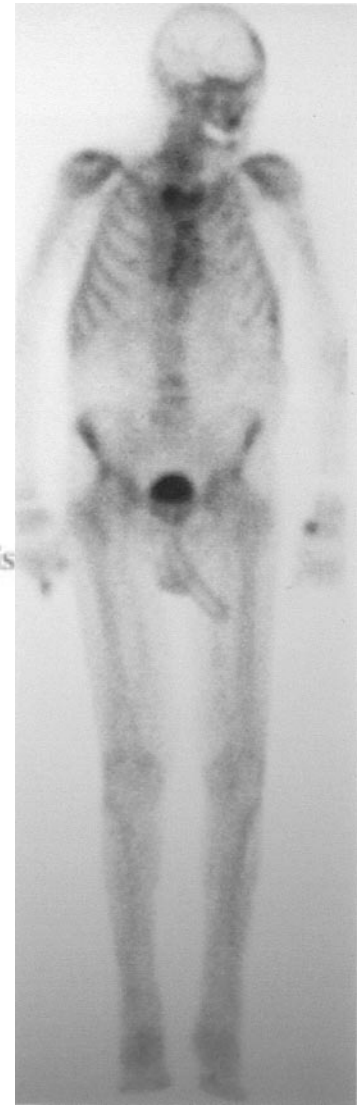

FIGURE 1. Whole-body bone scan obtained in 2002 clearly shows penile implant.

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FIGURE 2. Whole-body bone scan obtained in 1997 shows implant less clearly than does newer image.

but a cold center. Upon questioning the patient and reviewing the medical record, we found that a malleable penile prosthesis (AMS 600; American Medical Systems, Inc., Minnetonka, MN) had been implanted in 1995. The penis was not as clearly seen on a prior bone scan obtained using an identical technique and camera at another institution in July 1997 (Fig. 2). The difference in conspicuity was probably caused by an oblique penile positioning, relative to the camera, on the earlier image but a profiled positioning on the later image. No other correlative imaging studies of this body region were on file. The make and model of this implant were on record as far as the electronic medical record goes back.

DISCUSSION

Penile implants have been imaged on MRI (*1*,*2*), but we can find no literature on nuclear medicine imaging of penile implants. In summary, we report a rare case of the incidental finding of a penile implant on a whole-body bone scan. The implant was probably seen because of the extreme difference between its nearly complete absence of activity and the amount of activity in normal soft tissues. The differential diagnosis is limited to implant or infarct, such as in sickle cell disease secondary to fibrosis (*3*). The history was consistent with a surgically placed penile implant.

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