

Metastatic Transitional Cell Carcinoma Of The Bladder Mimicking Paget's Disease On Bone Scintigraphy

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Citation

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Abstract

An 83 year-old woman, with recently diagnosed transitional cell carcinoma (TCC) of the bladder presents with generalized body aches and pain in her right leg. Whole-body bone scintigraphy revealed multiple scattered foci of increased tracer uptake within the skeleton and generalized uptake in the distal half of the right tibia suggestive of bony metastases and Paget's disease, respectively. Plain radiography of the right tibia demonstrated ill-defined lucencies in both cortex and medulla in the metaphysis and diaphysis with no features of Paget's disease. Subsequent CT-guided bone biopsy confirmed the diagnosis of metastatic TCC.

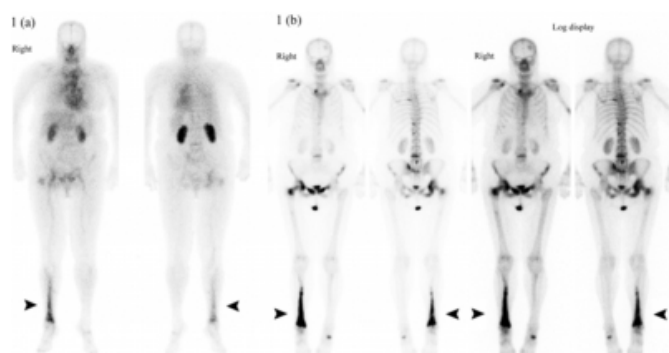
CASE REPORT

An 83 year-old woman, with recently diagnosed transitional cell carcinoma (TCC) of the bladder presents with generalized body aches and pain in her right leg. Whole-body bone scintigraphy revealed multiple scattered foci of increased tracer uptake within the skeleton and generalized uptake in the distal half of the right tibia suggestive of bony metastases and Paget's disease, respectively. Plain radiography of the right tibia demonstrated ill-defined lucencies in both cortex and medulla in the metaphysis and diaphysis with no features of Paget's disease. Subsequent CT-guided bone biopsy confirmed the diagnosis of metastatic TCC.

scan images at 4 hours [1 (b)] were acquired after the injection of 760 MBq (21 mCi) of Tc-99m Oxidronate (HDP). Multiple scattered foci of abnormally increased uptake particularly in the ribs, spine, pelvis and right proximal femur were noted on the early and delayed images. In addition, there was prominent near homogenous, intense, generalized uptake in both the early blood pool and delayed images of the distal half of the right tibia extending to the articular surface. Findings were in keeping with multiple bony metastases and probable Paget's disease of the mid and distal right tibia.

Figure 1

Figure 1



Standard whole-body blood pool [1 (a)] and delayed bone

Figure 2

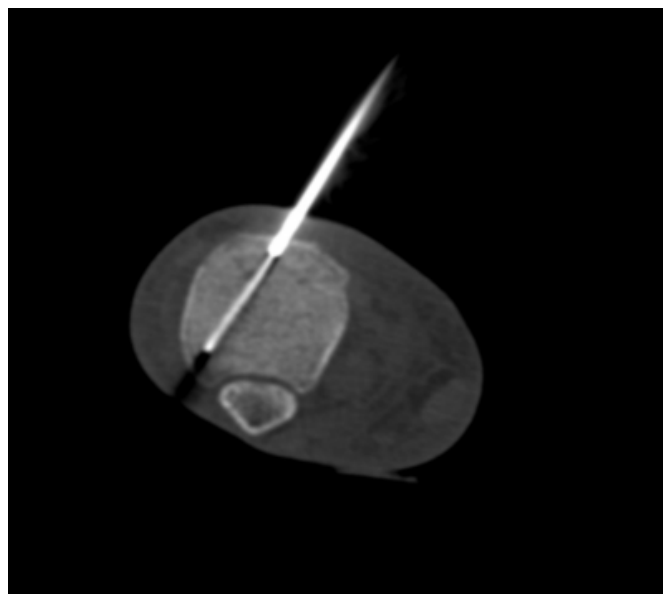
Figure 2



Standard lateral and antero-posterior radiographs of the right tibia showed ill-defined medullary and cortical lytic areas involving the distal diaphysis and metaphysis. The findings were not characteristic of the lytic or sclerotic phases of Paget's disease.¹ Bone scintigraphy is more sensitive than plain radiography at detecting Paget's disease.² The predominant feature of markedly increased uptake in most or all of the affected bone extending to the articular surface is usually characteristic of Paget's disease³ but it may be difficult to distinguish from metastases on occasions^{4,5}. Although skeletal metastases and Paget's disease are common, having both conditions in the same skeletal site is not.⁶ Skeletal metastases mimicking Paget's disease and vice versa have been described in prostate cancer^{4,5,7} but similar reports for TCC are rare.

Figure 3

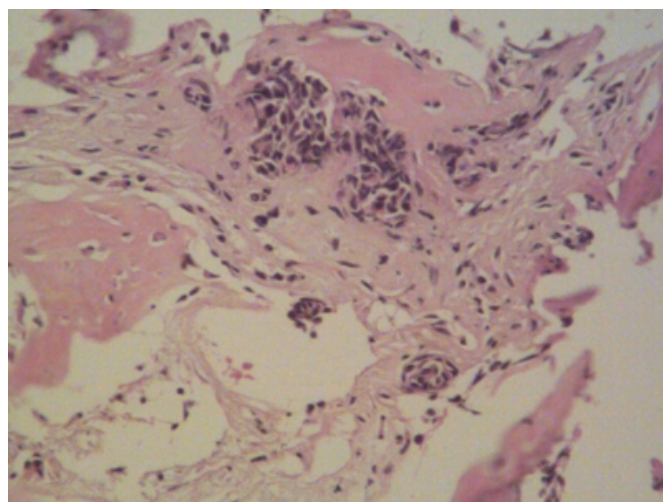
Figure 3



Given the patient's symptomology with the right leg, and the differentials of metastatic disease and/or Paget's disease, a CT-guided biopsy was performed to establish a histological diagnosis and to aid in treatment planning.

Figure 4

Figure 4



Histology showed metastatic nests of carcinoma from the bladder in fibro-sclerotic stroma with reactive bone. There were no features to suggest underlying Paget's disease. The patient proceeded to palliative radiotherapy.

DISCUSSION

Although the bone scan appears typical for Paget's disease, it is important to obtain correlative plain radiographs especially in a patient with known malignancy.⁸ Inconclusive

or incongruent radiological findings may warrant a tissue biopsy for definitive diagnosis, particularly where local treatment options will vary depending on the findings.

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