

Letters

Bone scan and SPECT/CT in Paget's disease of bone

We thank Drs Cook and Wall for a very comprehensive review of Paget's disease of bone, encompassing mechanisms, pathology and management.¹ They rightly point out the key role of a nuclear medicine bone scan and that it is more sensitive than plain radiology for identifying areas of increased osteoblastic activity. It is particularly useful for assessing the distribution of asymptomatic or polyostotic disease. It is also important for identifying bones that are at risk for local complications.

Computed tomography (CT) images provide superior cortical and trabecular detail in a cross-sectional display when compared with X-rays, and thus conspicuously exhibit the classic findings of Paget's disease that include osteolysis, trabecular coarsening, cortical thickening and osseous expansion. CT is commonly helpful in the workup of suspected complications including fractures and secondary neoplasms.²

It is worth noting that while magnetic resonance imaging (MRI) does not involve radiation, it also does not add to the diagnostic yield in this setting.³ It is not currently eligible for Medicare Benefits Schedule funding if patients are referred by general practitioners.⁴

Contemporary bone scans often use single photon emission CT (SPECT) in addition to conventional planar bone scan technology.⁵ This is done with no additional radiation burden to the patient, as the radiation dose is incurred from the standard radiopharmaceutical dose already administered for the basic bone scan.

SPECT can be combined with low-dose/non-diagnostic CT, officially termed SPECT/CT.⁵ While its primary purpose is for anatomic correlation, and it is not equivalent to a diagnostic CT, SPECT often provides adequate detail for diagnostic purposes with minimally increased radiation dose. It is available in community practice currently.⁴ For these reasons, we feel that SPECT/CT provides the most useful assessment for Paget's disease and should be specifically mentioned in the request. Do the authors also find this adjunct helpful in their practice?

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Reply

Thank you very much for your comments relating to imaging and the role of single photon emission computed tomography/computed tomography (SPECT/CT) in Paget's disease of bone (PDB).

We agree that radiology plays an integral role in the diagnosis of PDB, assessing the extent of polyostotic disease and excluding complications of PDB. The characteristic osteolytic lesions and trabecular coarsening are readily identified on plain radiographs, CT imaging and bone scintigraphy, with the choice of modality guided by cost effectiveness and accessibility to the patient.

Current guidelines recommend the use of plain radiography to confirm the diagnosis of PDB as the most cost-efficient imaging modality. Radionuclide bone scintigraphy with technetium-99m (^{99m}Tc), being more sensitive than X-ray in detecting osteoblastic activity sites of PDB, is valuable in the diagnosis of PDB and recommended to evaluate the

extent of asymptomatic disease.¹ While radionuclide bone scans are widely available, they are more expensive than plain films and are negative at sites of inactive PDB.²

As described by the authors, CT and SPECT/CT both demonstrate the characteristic features of PDB in greater detail than seen on plain films; however, these do not add diagnostic information, so are not recommended in the routine assessment of PDB.² However, CT imaging is recommended for the assessment of suspected complications of PDB, including basilar invagination, spinal stenosis and osteosarcoma.³

Evidence for the use of SPECT/CT in PDB is limited to small studies of treatment effect of bisphosphonates,⁴ so SPECT/CT is not recommended for diagnosis or management of PDB.²

For our patients, SPECT/CT is also not readily available, so we do not currently use SPECT/CT for the assessment or management of PDB.

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Erratum

Dommaraju S, Perera E. An approach to vertigo in general practice. *Aust Fam Physician* 2016;45(4):190-94.

In Table 2, it is stated that the onset and duration of labyrinthitis is 'few seconds to minutes', and the onset and duration of vestibular neuronitis is 'seconds to minutes'.

The journal would like to clarify that the onset and duration of each attack of symptoms (vertigo) is sudden (seconds to minutes), whereas the duration of the entire illness could last for days to weeks before complete resolution.

The table has been updated in the HTML and PDF versions of this article.

The journal apologises for any confusion this may have caused our readers.