Utilising CT data for assessing bone density

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We commend Amin, Zakaria and Yahya [1] for attempting to determine the ideal location for assessing bone mineral density on computed tomography (CT) scans. There were three particular points we found interesting.

As they reviewed, a range of CT density values have been purported by various studies to predict osteoporosis. We are reticent regarding using data from a single site as BMD at one site alone may not be representative of the overall bone health status [2].

Further, we noted that they found that the hip CT data had the highest positive correlation with BMD. This contrasts with a widespread tenet that spine data is more consistent than hip data for follow-up as the precision error is generally lower here than at the hip site [3], and this has been found specifically also in CT assessments [4].

Most importantly, they emphasised the relationship between CT data and bone mineral density information specifically with regard to the diagnosis of osteoporosis. This underestimates the need to treat osteopenia—diagnosed by any modality, including CT. It is widely recommended that many measures can be undertaken to improve bone health even before the onset of osteoporosis and these discussions are freely available on the internet [5, 6]. After all, a white woman—with osteopenia rather than osteoporosis—still has a 16% chance of fracture with a *T*-score of -1.0 . This escalates to 27% with a *T*-score of -2.0 and up to 33% with a *T*-score of -2.5 [5]. Can the authors provide guidance as to

what levels of CT density would be considered appropriate for management of osteopenia?

Declarations

Conflict of interest Dr. Lee has received travel expenses for attending meetings of his specialty at the College's Continuing Professional Development Committee, of which he is a member. He has received no other benefit (financial or non-financial) from this source. Dr. Patel has nothing to disclose.

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