

AUTHORS' REPLY

The role of SPECT in right ventricular imaging

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We would like to thank Dr Movahed for his interest (Movahed, M. R. Gated SPECT can detect abnormal RV structure or function. *Nat. Rev. Cardiol.* doi:10.1038/nrcardio.2010.118-c1)¹ in our recent Review on imaging the right ventricle (Mertens, L. L. & Friedberg, M. K. Imaging the right ventricle—current state of the art. *Nat. Rev. Cardiol.* 7, 551–563 (2010)).²

We indeed did not focus on single-photon emission computed tomography (SPECT) imaging, cardiac CT or cardiac angiography to image the right ventricle, as we primarily focused on methods that do not involve ionizing radiation. We believe that techniques involving ionizing radiation are infrequently needed specifically for right ventricular (RV) evaluation unless ultrasound windows are extremely poor and cardiac MRI is contra-indicated (for example, when patients have a pacemaker). We agree with Dr Movahed that

if SPECT is performed for other indications, such as coronary artery disease, it is worthwhile to include an assessment of the right ventricle in the analysis by SPECT imaging. However, we think that SPECT is rarely indicated as the primary or first-line modality for imaging the right ventricle.

Dr Movahed mentions the position of the interventricular septum as a sign of RV pressure overload, and comments on its potential role in the diagnosis of pulmonary embolism in patients with chest pain by SPECT imaging. Dr Movahed writes of a “shift of the interventricular septum toward the left ventricle” as the “Movahed’s sign”. The position of the interventricular septum has been evaluated using echocardiography for many years and it is well recognized that diastolic flattening is associated with RV volume overload while systolic flattening reflects RV pressure loading.³ As such, the

same observation on SPECT images is not new and has been used in echocardiography for decades.

Regarding Dr Movahed’s remarks on using SPECT imaging to evaluate differences between RV and left ventricular perfusion to assess RV hypertrophy RV workload, we agree that SPECT imaging might be of some use to detect pressure overload, but this approach would not be our first-choice imaging modality to make this diagnosis.

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Competing interests

The authors declare no competing interests.

1. Movahed, M. R. Gated SPECT can detect abnormal RV structure or function. *Nat. Rev. Cardiol.* doi:10.1038/nrcardio.2010.118-c1.
2. Mertens, L. L. & Friedberg, M. K. Imaging the right ventricle—current state of the art. *Nat. Rev. Cardiol.* 7, 551–563 (2010).
3. Bossone, E. *et al.* Echocardiographic features of primary pulmonary hypertension. *J. Am. Soc. Echocardiogr.* 12, 655–662 (1999).