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Many windows on the heart

Cardiology is advancing rapidly and cardiac imaging has been one of the leading fields, with many new techniques becoming freely available over the last few years. In this issue we offer readers an insight into these methods through the contributions of our authors, all leaders in their fields. I would like to acknowledge the assistance of Jan-Peter Smedema in the formation of our distinguished contributor panel.

Cardiac magnetic resonance imaging and its application in myocardial perfusion and viability assessment are reviewed by Bucciarelli-Ducci et al. The many exciting directions of research in this field are also covered.

The assessment of complex paediatric congenital heart lesions is often difficult using conventional two-dimensional echocardiography. In their paper studying the application of real time three-dimensional echo in a series of 100 such patients, Van den Bosch et al. demonstrate the benefits of this technique and its application in pre-operative assessment.

CT angiography has recently become extremely topical and appeals to patients wishing to avoid invasive tests. In their review De Feyter et al. expertly review the techniques, applications and cautions in the use of this modality.

Neethling et al. report a retrospective study of over 200 patients found to have a normal technetium-99m (Tc-99m) methoxy-isobutylisonitrile (MIBI) scan and found that this is associated with a favourable long-term clinical outcome comparable to that following thallium scanning.

Molecular imaging utilising labelled tracers and PET scanning is reviewed in the paper by Verjans and Hofstra. While currently largely a research technique, potential clinical applications may soon become possible locally with the availability of the necessary equipment.

Dr Shirley Middlemost shares her expertise in the field of echocardiography on the application of echo techniques to select and optimise patients receiving cardiac resynchronisation therapy. Methods of tissue velocity imaging and three-dimensional echo are detailed in this paper.

Cardiac imaging offers patients and their physicians opportunities for non-invasive imaging and insights into cardiac pathophysiology unavailable previously. The challenge for the profession, and the funders, will be to identify those techniques that are clinically beneficial and to ensure their availability to our patients.