Editorial

Editorial Comment for "Role of Cardiac MRI Including LGE, T1, and T2 Mapping in the Assessment of Cardiac Involvement in Patients of Nonspecific Aorto-arteritis: A Prospective Study

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Cardiac Magnetic Resonance Imaging (CMR) is becoming an important tool in the diagnosis and management of various cardiac ailments. One of its unique features is the ability to characterize myocardial morphology and thereby aiding in the early diagnosis of myocardial involvement in systemic diseases.

Myocardial mapping is a relatively newer concept in CMR and allows very early detection of myocardial fibrosis and diffuse myocardial disease, even without administration of gadolinium contrast material. This has shown promising results in the detection of myocardial pathologies at a preclinical stage allowing early diagnosis and therapy initiation.

Nonspecific Aorto-arteritis (NSAA) commonly involves young patients and often requires serial examinations to assess the disease activity and response to therapy. MR imaging is currently the front runner in the assessment of these patients due to the lack of ionizing radiation exposure and its ability to demonstrate aortic wall thickening and enhancement. By adding one to two extra sequences, it is now feasible to interrogate cardiac involvement in all such patients. In our institute, more and more patients are undergoing MR examinations for the initial analysis/assessment for suspected NSAA. Cardiac involvement in patients with aorto-arteritis is a known complication but can be difficult to diagnose in the early stages. Various imaging strategies are in use to detect myocardial involvement, including exercise testing, echocardiography, and nuclear medicine single photon emission computerized tomography (SPECT) imaging.

In this edition of the *Indian Journal of Radiology and Imaging*, Chandrashekhara et al[1] present a very important piece of evidence based on a review of their practice over four years. They have successfully demonstrated the incremental value provided by T1 mapping in the diagnosis/assessment of myocardial involvement in patients with NSAA. When compared to normal volunteers, myocardial T1 values were significantly elevated in patients with NSAA. They also found that patients without late gadolinium enhancement can also have abnormal native T1, highlighting the potential of CMR in the early detection of myocardial involvement (prior to irreversible fibrosis). Another study from PGIMER also looked at the same clinical scenario but only found about 14% of patients in their cohort had late gadolinium enhancement (LGE) compared to the 28% in this study.[2] There is inconclusive evidence with regards to disease activity and the incidence of cardiac involvement. In a large study of 204 patients with Takayasu Arteritis, disease activity was proportional to the cardiac involvement.[3] In this current study, no statistical significance could be established between disease activity and the presence of LGE.

This article just highlights the tip of the iceberg regarding the potential value and application of CMR. It will not be long before CMR examinations will be performed within 15 to 20 minutes with minimal breath hold requirement for patients. As more evidence gathers, myocardial mapping sequences will replace post-contrast LGE imaging. This will make CMR even more affordable and easier.

As a nation and responsible radiology fraternity, it is time for us to recognize the true potential of CMR in the diagnosis, management, and prognostication of patients with cardiac and various multisystemic diseases. It is time to focus our energies on building capacity and improving accessibility to cardiac imaging services in every city of the country.[4] It is also important for us to train the next generation of radiologists in cardiac imaging through fellowship programmes and focused workshops.

I take this opportunity to urge and enthuse budding radiologists to take up cardiac imaging as a sub-specialization and join the journey of improving clinical outcomes and prognosis in patients with cardiac diseases.

Conflicts of Interest

The author reports that he receives individual consulting fees from Imbio and Pie Medical Imaging, consulting fees

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for teaching from Philips, consulting fees for lectures from Cipla; honorarium from GE for producing educational content and honorarium from Asian Society of Cardiac Imaging for lectures; owns stock options in Imbio; has a patent in postmortem imaging (not related to this article); and serves as the Vice President for Indian Association of Cardiac Imaging.

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