Letter by Hamilton-Craig et al Regarding Article, “Role of Cardiovascular Magnetic Resonance as a Gatekeeper to Invasive Coronary Angiography in Patients Presenting With Heart Failure of Unknown Etiology”

To the Editor:

Assomull et al1 present encouraging data for the role of cardiovascular magnetic resonance (CMR) for noninvasive testing in patients with heart failure of unknown etiology. We agree with the many of the findings in this article, and have adopted a similar approach by using CMR for first-line evaluation of patients newly diagnosed with heart failure at our quaternary referral and transplant center.

However, we would draw referring clinicians’ attention to the fact that a CMR showing severe left ventricular systolic dysfunction in the absence of late gadolinium enhancement does not reliably imply absence of significant coronary artery disease. In Assomull et al the cohort had “no patients in whom late gadolinium enhancement-CMR suggested a diagnosis of dilated cardiomyopathy, and corresponding coronary angiography documented significant left main stem, proximal left anterior descending artery, or 3-vessel disease.” This statement, however, may provide false reassurance regarding the role of CMR in excluding an ischemic etiology.

A proportion of patients definitely exist with severe left ventricular dysfunction, absence of late gadolinium enhancement (global hibernation), and underlying severe coronary disease. Such are the patients with the very most to gain from revascularization and, if misdiagnosed, would have the worst prognosis. In our relatively small, prospective study of similar patients with new heart failure undergoing coronary angiography and CMR, 2 of 28 patients (7%) had absence of late gadolinium enhancement but presence of severe obstructive coronary disease (left main and/or 3-vessel).2 One patient was revascularized with full functional recovery, and the other is awaiting cardiac transplantation because of intractable heart failure. The fact that 2 such patients were found in our study, but none in Assomull et al or indeed previous reports, is simply a reflection of the relatively small cohorts in these studies.3,4

Thus, we caution that absence of late gadolinium enhancement does not necessarily obviate the need to image the coronary arteries in the presence of left ventricular dysfunction, particularly given the poor prognostic implications of unrevascularized hibernating myocardium.

As an alternative, we propose a noninvasive strategy combining CMR with coronary computed tomographic angiography, harnessing both anatomic and functional imaging to ensure the highest possible sensitivity (100%) and specificity (100%) for correctly establishing the diagnosis in this important patient group.2,5

Disclosures

None.

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References

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