Comparison of Helical CT Scanning and MRI in the Follow-up of Adults With Coarctation of the Aorta

To the Editor:

Vriend et al.1 outlined in their letter to the editor that the capabilities of MRI are not only limited to a detailed imaging of the entire aorta but also allow functional flow measurements. Therefore, they favor MRI over helical CT scanning in the follow-up of patients with coarctation of the aorta. We totally agree that new functional measurements performed with MRI can contribute to the diagnostic workup of coarctation patients and that it might be even more cost-effective to perform MRI without echocardiography in the regular follow-up.2 But, at the moment, the availability and experience for MRI in congenital cardiology are very limited to a small number of centers worldwide.

We wanted to point out in our study3 that both helical CT scanning and MRI are highly useful for the imaging of the thoracic aorta in patients with coarctation, but measurements obtained from different methods in sequential studies should be interpreted with care. The following attributes favor helical CT scanning: better resolution; less investigation time; no disturbance with pacemakers; better compatibility with intensive care monitoring; and, generally, greater availability. Other attributes favor MRI, like the possibility of additional functional studies, the lack of ionizing radiation, and, maybe, the lack of need for contrast media. Therefore, the optimal imaging method should be selected for every individual patient. Shifts between methods should be avoided.

From a scientific point of view, there is no doubt that MRI measurement of collateral flow,4 the elastic properties of the aorta,5 flow profiles at different sites of the arterial vessels, and many other functional questions are compelling issues of coarctation research, as coarctation seems to be not only a local defect, but also a systemic vessel disease with alterations in the vessel wall6–8 and in the vascular response.9 However, this was not the primary aim of our study.

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Daily Hemodialysis Improves Survival in Acute Renal Failure in the ICU

To the Editor:

In the excellent special report by Dr. Vincent on evidence-based medicine in the ICU, no mention was made about the beneficial effect of daily hemodialysis (DH) in patients with acute renal failure (ARF). Schiff and colleagues1 and Bonventre2 have demonstrated that a regime of DH was superior to alternate-day hemodialysis (ADH) in this cohort of patients who typically have a high mortality.1,2 Better uremic control, fewer hypotensive episodes, and more rapid resolution of ARF was noted in the DH group. Notably, among those patients with a normal urinary output at enrollment, 73% in the ADH group and only 21% in the DH group became oliguric. This could be related to the fewer hypotensive episodes in the DH group. Better uremic control and improved volume status could have contributed to the improved survival as well. This study, along with another study by Ronco and colleagues,3 call for intensive renal replacement therapy in the form of DH or continuous venovenous hemofiltration in all patients in the ICU with ARF.

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