

Letters to the Editor

Importance of Definition and Technique When Using Noninvasive Coronary Angiography to Diagnose Myocardial Bridging**Importancia de la definición y la técnica en el diagnóstico de puentes intramiocárdicos por angiografía coronaria no invasiva****To the Editor,**

We read with great interest the article by Agustín et al. in *Revista Española de Cardiología*¹ in which the authors highlight the usefulness of coronary computed tomography angiography (CT) to detect myocardial bridging (MB) in a symptomatic population with an otherwise low prevalence of coronary heart disease. Although invasive coronary angiography (based on systolic compression in the coronary arteries) has traditionally been considered the treatment of choice when evaluating MB, noninvasive anatomic assessment using multidetector CT scanning is increasingly common and useful.² In our opinion, however, a number of points are worth discussing.

First, the prevalence of MB detected by multidetector CT varies considerably. Some of this variability may be due to geographical reasons but recent technological developments in CT as well as variability in the way studies are interpreted may also play a role. Postmortem series have reported prevalence rates for MB of up to 86%,³ which is higher than rates reported using noninvasive diagnostic techniques. This difference may be due to higher detection rates of superficial bridges during autopsy, as well as to the detection of more distant and lower calibre branches that are not detected with current CT techniques. The prevalence of MB detected using multidetector CT also appears to increase with the number of detectors. Ko et al.⁴ reported a prevalence of 5.7% in patients studied with 16-row multidetector CT coronary angiography, while Agustín et al.¹ and other authors such as Johanson et al.⁵ and Kim et al.⁶ reported prevalences of between 20% and 60% when using 64-row CT. It remains to be seen whether higher prevalences of MB will be diagnosed by the newer 128, 256, or 320-row devices; their greater spatial resolution should mean that they are able to detect shorter and shallower MB. Detection rates for MB also depend on the definition used.⁷ Some studies consider whether the whole of the visualized segment is affected (complete bridge), while other authors consider involvement of 75% of the area (partial bridge) to be sufficient. Such differences can also lead to disparate results in the prevalence rates for MB.⁶

In addition, the relationship between angina and the presence of MB is still the subject of debate. Several anatomical variables used to characterize MB (length, depth, and degree of systolic compression) may be related to the appearance of angina symptoms. For example, Elmali et al. showed, that in patients with MB evaluated using multidetector CT, a bridge depth >4 mm

was always related to coronary systolic compression detected using invasive angiography and the development of angina symptoms.⁸ The use of 64-row CT by de Agustín et al.¹ in contrast to the 16-row CT used by Elmali et al.,⁸ would probably have allowed them to detect smaller and shallower bridges, which could still be related to the appearance of angina. The findings of de Agustín et al.¹ findings could be important in the near future if shallower and shorter bridges, which may well be detected through advances in multidetector CT, are found to be the cause of angina symptoms that have no other apparent cause.

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