



## EDITORIAL COMMENT

# Endomyocardial biopsy. Do it whenever you need it! ☆

## Biópsia endomiocárdica. Efectuar sempre que necessário!



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Endomyocardial biopsy (EMB) was initially performed via thoracotomy and it was only in 1961 that the percutaneous technique was introduced by Sakakibara and Konno.<sup>1</sup> Over the last few decades, we have seen major developments in EMB and non-invasive cardiac imaging diagnostic modalities. These methods complement each other particularly well in the study of non-ischemic myocardial disease. Biopsy is still the gold standard in the diagnosis of various myocardial diseases, in assessing rejection in patients who have undergone a heart transplant- and in clarifying the etiology of some intracardiac masses. In spite of the well-established diagnostic value and therapeutic guidelines for applying the technique and indications,<sup>2,3</sup> EMB has been underused thus far, in part due to fear of complications.

Despite this, the number of native heart biopsies has seen significant growth, demonstrated by improved procedure outcomes, immunohistochemical diagnostic techniques and molecular virology.<sup>4,5</sup>

Several studies seem to indicate better diagnostic yield in some diseases (myocarditis, some infiltrative myocardial pathologies) when obtained by left ventricular or biventricular biopsy.<sup>6,7</sup>

Menezes et al.<sup>8</sup> describe the first cases of EMB in Portugal using a radial access approach. The observational trial with selected patients demonstrated the technique's safety and

efficacy in a group of patients with suspected myocardial pathology/myocarditis; transplanted patients were not included.

The positive findings obtained via transradial access corroborate other reported studies<sup>9,10</sup> and developments in the material available and operators' experience in radial access point to a desirable growth of the method. Performing anechocardiogram simultaneously appears to contribute significantly to the safety of the technique. The limitations referred to by the authors, conditioned by the study characteristics and number of patients, as well as the lack of objective post-procedure assessment of vascular patency, do not invalidate the conclusions on the feasibility and safety evidenced by the reported results. As a high rate of radial occlusion is described post EMB, artery patency post biopsy needs to be assessed further, although - there were no major clinical consequences.<sup>11</sup>

It is noteworthy that, in patients on circulatory support, a condition of non-pulsatile circulation, radial access can be facilitated using Doppler ultrasound as a puncture guide.<sup>12</sup> This may -be more important in patients with acute heart failure of unknown etiology and who sometimes have vascular access issues conditioned by their critical state, the presence of central catheters and/or venous and arterial cannulas.

The hypothesis put forward by the authors that left ventricular biopsy appears to be at least as safe, if not safer, than right ventricular biopsy, cannot be inferred from the study population. With regard to the usefulness of the biopsy, regardless of the reassurance conferred by the diagnosis, in patients with acute and chronic myocarditis (56% of the sample), the percentage of cases in which the findings may have been influenced by the treatment was low. This

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is particularly evident if we take into account the selected nature of the patients.

The usefulness of EBM has also been established in less common situations, such as in the diagnosis and characterization of intracardiac masses, relying on echocardiography support (especially intracardiac echocardiograms) to increase its efficacy and safety.<sup>13</sup>

In the current SARS-CoV-2 pandemic, cases of myocarditis have been described<sup>14,15</sup> in which the diagnosis was based essentially on cardiac resonance imaging; in this context the role of EMB has yet to be determined.

In summary, EBM has been underused as a technique despite various international recommendations. Radial access is promising in patients with a need for a sole biopsy and less indicated in patients requiring multiple procedures, such as heart transplant patients, due to the risk of access thrombosis after recurrent use.

We must be mindful of the indications for its use and also how to select the best access according to the indication and probable sample yield.

Regardless of vascular access, having EMB performed by experienced operators is a determining factor in its safety and efficacy.

## Conflicts of interest

The authors have no conflicts of interest to declare.

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