

# Cardiac evaluation in a patient with epileptic seizures: a value of cardiac magnetic resonance imaging

Avaliação cardíaca em pacientes com crises epiléticas: o valor da ressonância magnética cardíaca

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To the Editor,

We read with interest the article by Rocha et al.<sup>1</sup> entitled “Takotsubo cardiomyopathy: a rare, but serious, complication of epileptic seizures”, which was published in the previous issue of *Arquivos de Neuro-Psiquiatria*. The authors<sup>1</sup> presented a case of Takotsubo cardiomyopathy (TKC) in a patient with unexplained sinus tachycardia and troponin elevation after generalized epileptic seizures. The authors highlighted the importance of suspecting TKC in patients with seizures and signs of cardiac dysfunction. Although, the current case is interesting and well-presented one, some comments may be of beneficial.

Takotsubo cardiomyopathy presents with a myocardial infarct-like clinical syndrome and is a cause of transient left ventricular systolic dysfunction, which tends to normalise approximately in a week<sup>2</sup>. It is often preceded by stress or exacerbation of an existing medical condition and results in angiographically normal coronary arteries<sup>2</sup>.

Patients with electrocardiographic changes and elevated troponin biomarkers must be evaluated in detail to detect an etiology and manage treatment. Stressful conditions such as epileptic seizures and entubation could trigger TKC.

Evaluating cardiac wall motion abnormalities related to myocarditis, coronary vasospasm and coronary spontaneous dissection, which could be seen especially in peri- and postmenopausal women related to hormonal disturbances, could be difficult<sup>3</sup>. When etiology remains unclear, cardiac magnetic resonance (CMR) appears to be a useful imaging modality for documenting the extent of the regional wall motion abnormality and differentiating TKC from other cardiomyopathies<sup>2</sup>. On CMR imaging, whereas TKC is characteristic in no or minimal late gadolinium enhancement (LGE), myocardial infarction is characteristic in subendocardial LGE, which extends variably transmurally to the epicardium<sup>2</sup>.

Cardiovascular magnetic resonance imaging is a safe, useful, noninvasive modality that can be used in assessing myocardial function and tissue, differentiating and diagnosing cardiomyopathies in suspected myocardial diseases even with angiographically normal coronary arteries<sup>2,4,5</sup>. Determining the precise etiology of electrocardiographic changes and elevated troponin biomarkers will help in estimating true incidence of TKC in epileptic patients, thus increasing the strength of the studies and the prospective nature of TKC evaluation.

## References

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