

Image in cardiology

Postural electrical storm: a rare consequence of a metastatic rhabdomyosarcoma



Tormenta eléctrica postural: una rara consecuencia de un rabdomiosarcoma metastásico

Joana Brito, Tanguy Bois, and Raphaël P. Martins*

Service de Cardiologie et Maladies Vasculaires, CHU de Rennes, Rennes, France

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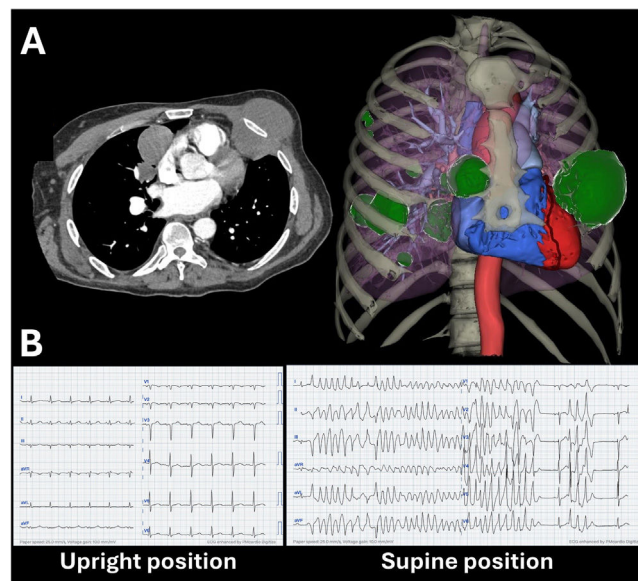


Figure 1.

A 58-year-old man was diagnosed with stage IIIa spindle cell rhabdomyosarcoma of the right foot. Despite undergoing amputation and chemotherapy, a computed tomography scan revealed multiple metastases to the lungs, pleura, liver, and bone marrow, as well as a thoracic wall metastasis in close proximity to the heart (figure 1A: axial view and 3-dimensional reconstructions). Eight days later, he developed an electrical storm, which was treated with esmolol and amiodarone. Interestingly, the arrhythmias were triggered when he was in the supine position and systematically decreased in the upright position (figure 1B: electrocardiograms in the upright and supine positions). After experiencing recurrent episodes associated with poor tissue perfusion, confusion, and severe metabolic acidosis, he was deeply sedated and intubated, yet continued to experience incessant arrhythmias. Following a multidisciplinary team discussion, we decided not to escalate therapeutic measures further due to the patient's limited oncological prognosis, leading to his death.

Postural ventricular arrhythmias, a very rare phenomenon, have been previously described in the context of increased vagal nerve activity. However, to the best of our knowledge, postural electrical storms have not been reported thus far. In this case, since ventricular tachycardias were triggered by the supine position, we hypothesized that intermittent compression of the myocardial wall or a coronary artery by the large thoracic wall metastasis could be arrhythmogenic. The morphology of the premature ventricular complexes in the precordial leads, with a positive concordance pattern, suggests that the tumor mass may have been compressing the base of the left ventricle.

* Corresponding author.

E-mail address: raphael.pmartins@gmail.com (R.P. Martins).

X @MartinsRaphael15

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ETHICAL CONSIDERATIONS

Informed consent was obtained from patient's relatives. The publication of this report followed international recommendations. Potential sex and gender biases were taken into account.

STATEMENT ON THE USE OF ARTIFICIAL INTELLIGENCE

No artificial intelligence tools were used in the preparation of this manuscript.

AUTHORS' CONTRIBUTIONS

J. Brito, T. Bois, and R. P. Martins wrote the manuscript.

CONFLICTS OF INTEREST

None.