

Syncope in a Patient With a History of Radiotherapy: The Importance of a Comprehensive Assessment of Cardiac Involvement



Síncope en un paciente con antecedente de radioterapia: la importancia de una valoración global de la afección cardíaca

To the Editor,

We have read with great interest the case reported by Jorge-Pérez et al¹ concerning a 44-year-old man with a history of thoracic radiotherapy who presented with episodes of exertional syncope. Given the prolonged survival of patients with Hodgkin's lymphoma and the high radiation doses administered years ago, an increasing number of patients with these characteristics are being referred to cardiology departments. Thus, we consider the case to be of great relevance.

During an exercise echocardiogram, the patient experienced an episode that the authors describe, both in the text and the figure legend, as a "12-second episode of atrioventricular dissociation". This is an inaccurate description of the electrocardiogram since, far from independent atrial and ventricular rhythms, what the recording shows is asystole due to the development of complete atrioventricular block. The clinical picture is interpreted as a paroxysmal atrioventricular block secondary to fibrosis of the conduction system as a consequence of the radiotherapy. However, we consider that, in this case, it would have been advisable to carry out an exhaustive study to rule out the presence of coronary artery disease.

The effect of radiotherapy on the heart has been dealt with extensively and can take many forms: myocardial, coronary, valvular, pericardial, and conduction system involvement. Coronary artery disease is the most common cardiac condition, occurring in up to 8.4% of patients who undergo thoracic radiotherapy, according to the reported series.² The histological findings include interstitial fibrosis and luminal narrowing secondary to intimal proliferation,³ with a predilection for the coronary artery ostia because of the anterior position of the origin of the 2 coronary arteries in the thoracic aorta.^{4–7} In the case reported by Jorge-Pérez et al,¹ this possibility is even more probable because of the severe calcification the mitral and aortic valves and the subvalvular aortic calcification revealed by the echocardiogram.

As has been reported previously, paroxysmal atrioventricular block may be of ischemic origin, which in most published cases corresponds to a disturbance of the His-Purkinje system conduction.⁸ In the patient discussed herein,¹ the involvement of the His-Purkinje system is evident, not only because of the presence of right bundle branch block in the baseline electrocardiogram, but also because of the 65 ms-HV interval measured in the electrophysiological study. In this respect, it is also necessary to point out that the HV interval is by no means "within normal limits", as the authors report, given that this limit has been set at 55 ms (up to 60 ms can be accepted in patients with left bundle branch block).⁹

Atrioventricular block secondary to radiotherapy-induced coronary artery stenosis has been described in previous studies,¹⁰ and the consequences can be serious unless revascularization is undertaken (particularly in this patient because of his profession as a truck driver). Thus, we consider that, in this case of exercise-induced atrioventricular block in the His-Purkinje system, coronary angiography should have been performed to rule out an ischemic cause, before attributing it exclusively to the direct effects of the radiotherapy on the conduction system.

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Síncope en un paciente con antecedente de radioterapia: la importancia de una valoración global de la afección cardíaca. Respuesta

To the Editor,

Having carefully read the contributions of Unzué et al,¹ we would like to add the following comments to ensure a greater understanding of the case.¹

The assessment of cardiovascular symptoms in patients with a history of radiotherapy is complex and, given the low incidence of