Sociedad Cubana de Cardiología

Cardiac imaging

Arrhythmic syncope in a patient with coronary spasm

Síncope arrítmico en un pacientes con espasmo coronario

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This article presents the 24-hour electrocardiographic (Holter) recordings of a 64-year-old male patient with a history of arterial hypertension who, after experiencing several syncopal episodes, sought cardiologic evaluation.

Syncope is a clinical picture characterized by a transient loss of consciousness with spontaneous recovery and without neurological sequelae, resulting from mechanisms of cerebral hypoperfusion.[1]

During the clinical interview, the patient reported that an anginal-type chest pain consistently preceded the syncopal episodes, which occurred within seconds, occasionally accompanied by sphincter relaxation, followed by complete recovery within a few minutes.

Baseline electrocardiogram, electroencephalogram, and brain computed tomography revealed no abnormalities.

Coronary angiography demonstrated a non-significant lesion in the mid-segment of the right coronary artery, which did not require intervention. Due to persistent syncopal events, the patient was re-evaluated and the shown electrocardiogram was performed.

In **Figure 1**, an ST-segment elevation greater than 1 mm can be observed immediately preceding the syncopal episode (**A**). Subsequently, a monophasic injury current appears[2,3] (**B**). Both findings indicate an ischemic event. This was followed by a burst of ventricular tachycardia (**C**), and later by atrial fibrillation with markedly prolonged R–R intervals (**Figure 2A**), corresponding to a Stokes-Adams attack, which accounted for the syncopal episode. Henceforth, complete recovery of the ST segment was observed (**Figure 3A**), thus identifying the arrhythmia responsible for the event.

Cases of recovered sudden cardiac death have been reported in young patients with acute myocardial infarction.[4] Syncope secondary to chronic ischemic heart disease,[5, 6] even in the presence of significant coronary artery disease,[7] has also been described; however, the patient presented herein did not meet these diagnostic criteria.

Anatomically, the coronary lesion is non-significant, however, over the atheromatous plaque causing it, a vascular spasm may have occurred, leading to transient acute ischemia, arrhythmias, and loss of consciousness.

The patient was treated for ischemic heart disease, with a calcium channel blocker (Diltiazem 120 mg every 12 hours) along with 40 mg of Atorvastatin daily, which resolved the syncopal episodes.

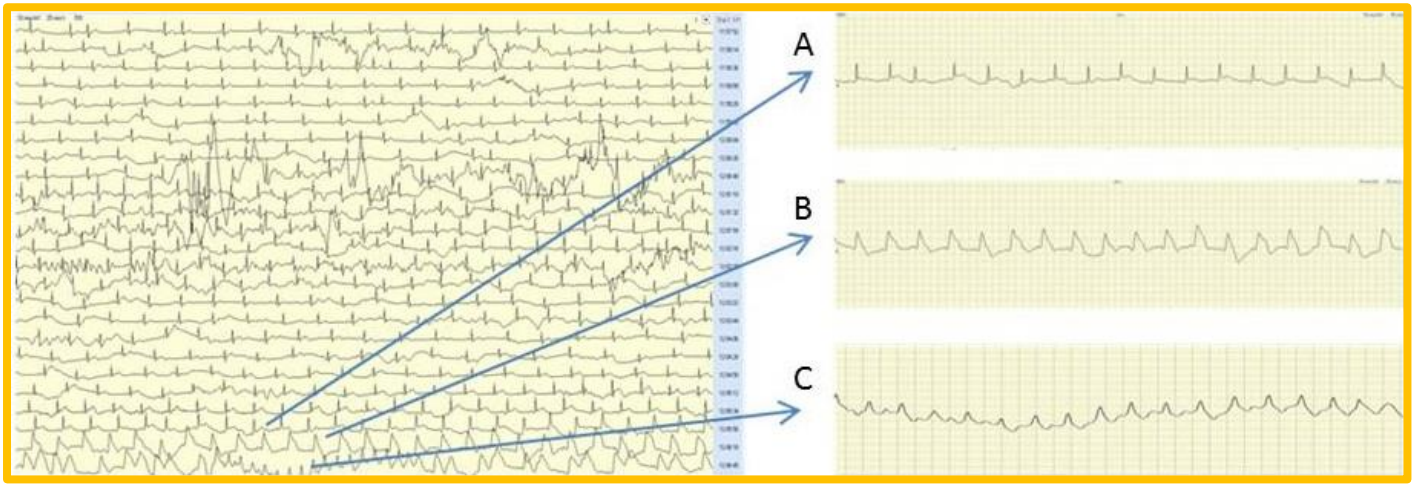

Figure 1- Extended Holter electrocardiogram recording. **A-** ">1 mm ST-segment elevation immediately before syncope. **B-** Monophasic injury current. **C-** Burst of ventricular tachycardia

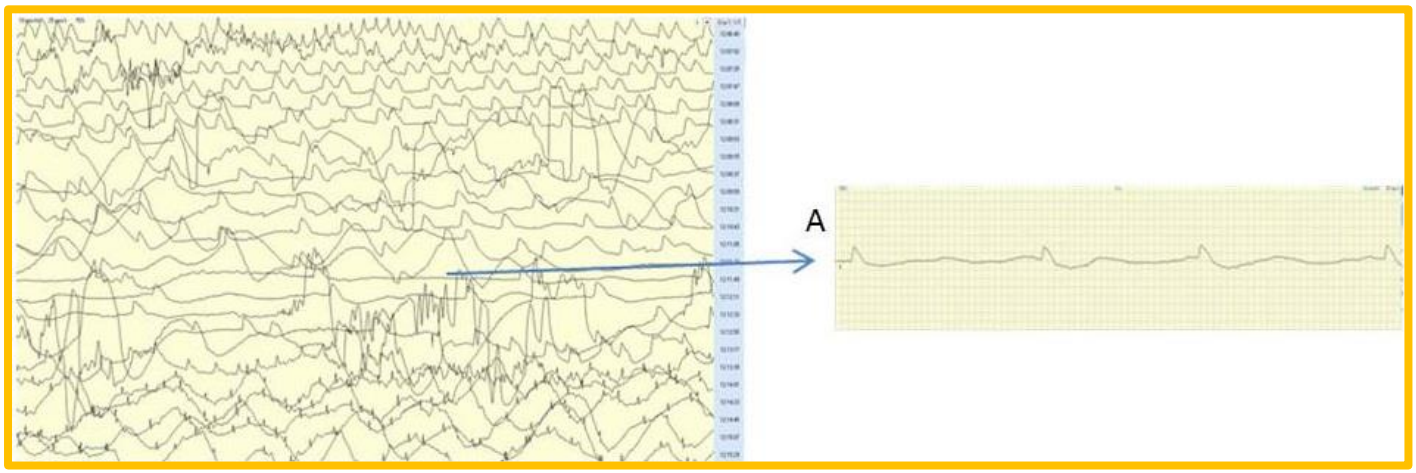

Figure 2- Extended Holter electrocardiogram recording. **A-** Atrial fibrillation with very prolonged R-R intervals, coinciding with the clinical event of a Stokes-Adams attack

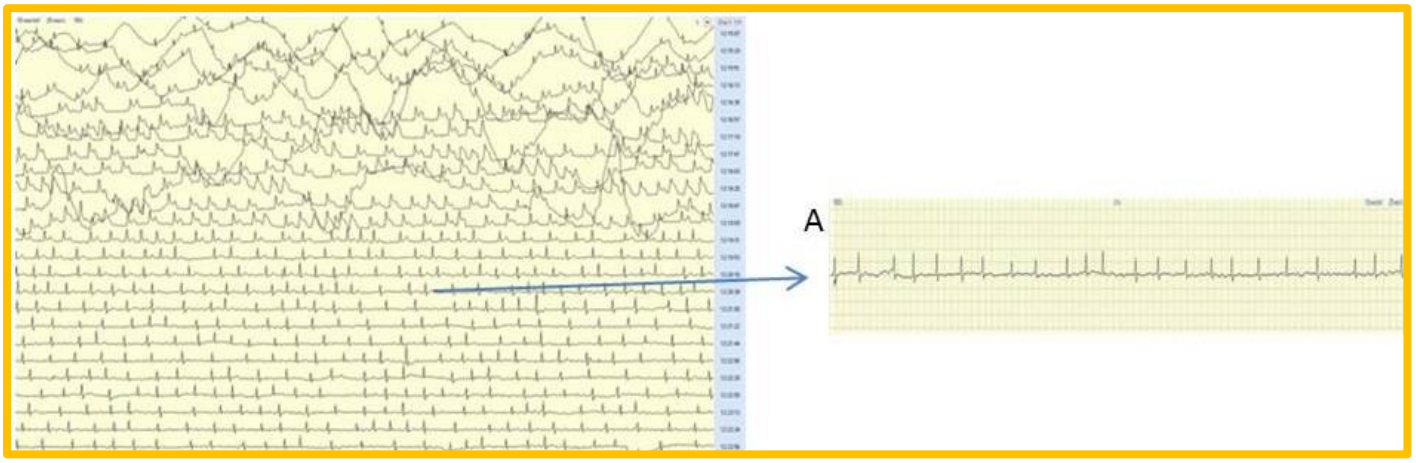

Figure 3- Extended Holter electrocardiogram recording. **A-** Complete ST-segment recovery

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