



## LETTER TO THE EDITOR

### Ventricular tachycardia as a rare and fatal cause of recurrent dizziness in emergency department

Acil serviste tekrarlayan baş dönmesinin nadir ve ölümcül bir nedeni olarak ventriküler taşikardi:

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To the Editor,

Dizziness is a non-specific complaint often used by patients to describe a wide range of symptoms. Diseases that cause dizziness have a low life-threatening rate. However, the severity of the symptoms can vary from mild to severe, can affect the person's life, and cause difficulty in performing daily tasks and may even lead to a bedridden lifestyle<sup>1,2</sup>.

Dizziness is a common presenting complaint in the emergency department (ED). The differential diagnosis of these patients is sometimes very difficult for emergency physicians due to the wide range of etiologies Examining a case in point, an 82-year-old

male patient admitted to the ED with dizziness followed by a fall. It was learned that it was not high-energy fall but resulted in a mild head injury. He was alert, oriented, and able to communicate well. His vital signs were as follows; blood pressure: 140/80 mm/Hg, heart rate: 140-150/min, blood sugar:135, SpO2:96. Brain CT scan was evaluated as normal. On the ECG, which was recorded for the etiology of dizziness, suspicious ST segmental elevation between 1-2 mm in the chest leads was observed (Figure 1). The patient inquired about the presence of chest pain. It was learned that even though he had chest pain occasionally, it had passed and he reported no chest pain today.

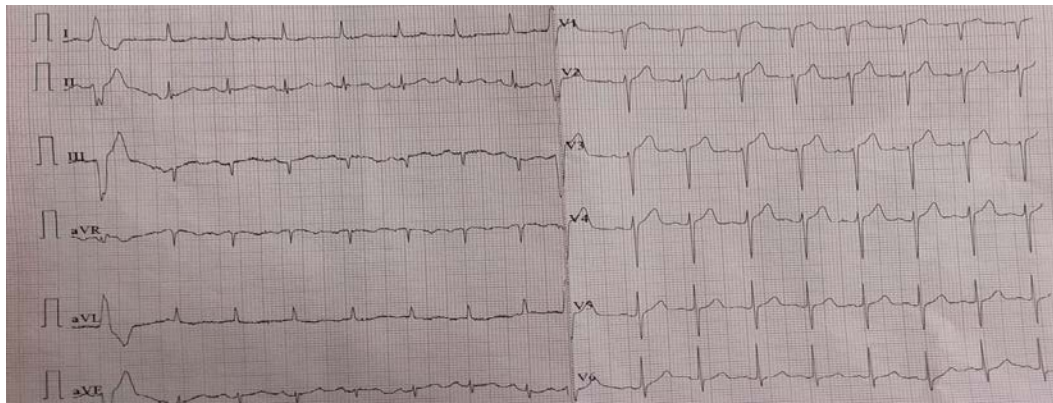


Figure 1 First ECG record of the patient with dizziness complaint

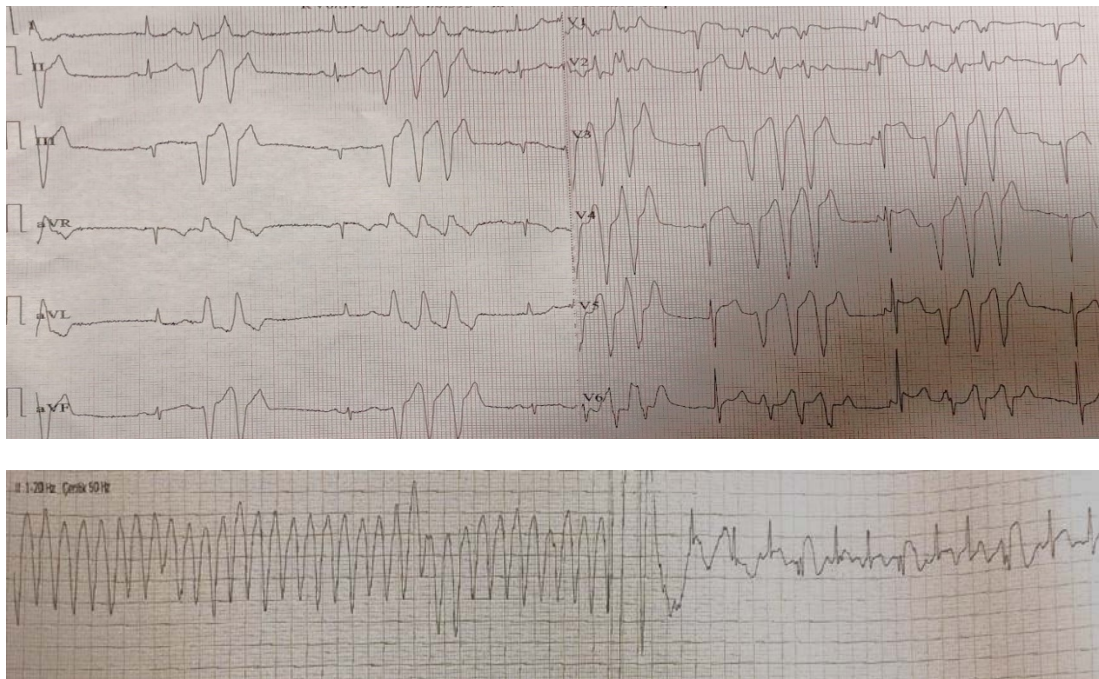
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The patient was monitored and observed in the yellow zone. The ECG taken 20-30 minutes later showed frequent Ventricular Extra systoles (VES). Considering that the patient's dizziness attacks might be relevant to this cause, we initiated amiodarone treatment after consulting with a cardiologist. We took the patient to the resuscitation room for closer observation. On the monitor, it was observed that episodes of VES started to occur more frequently,

and monomorphic VT developed (Figure 2). The patient complained of dizziness concomitantly with this rhythm disturbance. After cardioversion with 100J in synchronized mode on the defibrillator, the patient's rhythm reverted to sinus rhythm, and he had no complaints. While we were in contact with 112 for the transfer of the patient to an advanced center, a sinus rhythm was obtained with single cardioversion upon VT attack again.



**Figure 2. The ECG record of the patient, taken control purposes and the monitor record of VT**

The incidence of dizziness is reported to have a prevalence of 17% in secondary and tertiary care admissions and a prevalence of 3-4% to 26% in ED admissions. Similar to the case, the frequency increases with age<sup>2,3</sup>.

Anamnesis is undoubtedly the most helpful tool in the examination to clarify the differential diagnosis. The patient's previous medical history, medications, details about dizziness, the presence or absence of ear complaints, symptoms of presyncope, alcohol or substance use, caffeine, and nicotine intake have to be questioned. In physical examination, maneuvers

designed to induce dizziness under polyclinic conditions, comprehensive neurological examination and cardiac examination (tests for orthostatic hypotension, etc.) should be performed<sup>4,5</sup>. Additional assessments such as visual acuity, cervical spine evaluation, mental status examination, otoscope inspection, and hearing tests may be required. For diagnostic purposes, imaging tests such as Brain CT, Brain MRI, Carotid Doppler, blood tests such as hemogram or biochemistry tests and cardiac tests such as ECG-EKO-Holter EKG may be needed<sup>6</sup>.

There is some evidence that cardiac arrhythmias may cause dizziness. In one study, this rate was found to be 0,8. Although there are reports of cases of arrhythmias such as sick sinus syndrome and blocks being diagnosed in patients with dizziness, there are rare cases like VT (a fatal rhythm) presented with this complaint, as seen in the case<sup>7-10</sup>.

Consequently, benign causes are more common in patients presenting to the ED with complaints of dizziness. Some patient groups may experience relief with symptomatic treatment, and no additional tests or investigations may be required. There is a high possibility that critical and fatal causes may be overlooked in a patient with chronic and intermittent dizziness as seen in the case. Careful evaluation is essential for elderly patients with communication challenges, comorbidities, and pertinent warning signs in their medical history, especially when syncope-inducing events like falls occur, as demonstrated in the presented case. It should be kept in mind that the etiology of dizziness may include fatal and life-threatening causes such as VT.

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