

# Syncope cluster in a patient with vasovagal history

Wielokrotne omdlenia u chorego z wywiadem wazowagalnym

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## Abstract

We report a case of a 55 year-old man with a history of vasovagal syncope who experienced six unexpected syncopal events over the course of two hours. Two of these occurred in the supine position during ECG monitoring, which showed a long-lasting sinus pause. Before the last syncopal episode, the ECG recording was started at the moment when the patient had the recurrence of presyncopal symptoms. Recordings showed sinus rhythm slowing for 12 s and then sinus arrest lasting for 29 s. A thorough clinical examination revealed no relevant abnormalities. The patient was treated with a permanent pacemaker implantation.

**Key words:** sinus arrest, reflex syncope cluster

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A 55 year-old man was admitted to hospital because of two syncopal events within half an hour. The first syncope occurred while he was driving, and the second one happened at home when he was sitting. Fortunately, he had been driving slowly in a heavy traffic and managed to stop the car. While he was sitting in the hospital foyer he collapsed again. His medical history revealed a vasovagal syncope in his youth. His mild arterial hypertension was being treated with amlodipine, and his rheumatoid arthritis — with sulfasalazine. The patient was referred to the neurological emergency service. During his transfer he fainted twice more. The second of these occasions occurred while his ECG was being monitored. This revealed a long sinus pause.

On his way to hospital, lying in the supine position on a stretcher, the patient informed the medical staff of the re-appearance of presyncopal symptoms. The ECG recording was immediately initiated. At the onset of symptoms the heart rate was 70/min. The heart rate began to slow down and after 12 s an asystole lasting 29 s occurred (Fig. 1). A short cardiac massage was provided approximately 24 s after the onset of the pause and stopped promptly once the sinus rhythm had been restored.

The patient immediately regained consciousness. He was admitted to hospital and protected against further faints with temporary pacing but the heart rate over the following three days never dropped below 40/min. The clinical examination did not reveal any cause for the recurrent faints. Reflex syncope was diagnosed. The decision to implant the permanent pacemaker was made to protect the patient against traumatic injuries related to syncope.

## DISCUSSION

While persistent bradycardia clearly defines a sick sinus syndrome the meaning of an intermittent bradycardia and a sinus arrest is less clear [1]. In patients affected by a syncope caused by a transient bradycardia the most likely mechanism of the syncope is a neurocardiogenic one [2]. The medical history revealed former syncopal spells provoked by prolonged standing and preceded by blurred vision and sweats. Now the presyncopal symptoms were shorter but the patient was able to report them when the heart rate was 70/min what indicated some other aetiology than a decreased heart rate. Presyncopal symptoms during a neurocardiogenic reflex usu-

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**Figure 1.** A strip of ECG during the last syncopal attack

ally precede the relevant heart rate slowing. The clinical course of the observed syncope indicated its reflex origin.

The occurrence of vasovagal syncope in clusters is a well-known phenomenon, but it is very rare to come across as many as two, three or even more syncopal attacks per day. Standing up too soon after a syncope, a febrile illness and dehydration all predispose to syncope clusters. In our case, however, we could not discover any other causes of a paroxysmal recurrent asystole. The timing of the loss of consciousness was unpredictable and not precipitated by any identifiable factor such as prolonged standing, micturition, venepuncture, neck torsion or anything else which might provoke the syncope. In our case the pacemaker implantation was justified by our concern about the unpredictable recurrence of the syncope because the provoking factors had not been

found as well as because of the risk of physical injury due to the short duration of prodromal phase. Epilepsy, hypothyroidism, hypothermia, neurological and cardiac infections as well as an exposure to poisons, toxins and drugs should be considered in cases of syncope cluster [3]. However, all such causes were excluded in our patient.

### References

1. Vardas PE, Auricchio A, Blanc JJ et al. Guidelines for cardiac pacing and cardiac resynchronization therapy. *Eur Heart J*, 2007; 28: 2256–2295.
2. Brignole M, Menozzi C, Bottoni N et al. Mechanisms of syncope caused by transient bradycardia and the diagnostic value of electrophysiologic testing and cardiovascular reflexivity maneuvers. *Am J Cardiol*, 1995; 76: 273–278.
3. Smith BK, Cook MJ, Prior DL. Sinus node arrest secondary to HSV encephalitis. *J Clin Neurosci*, 2008; 15: 1053–1056.