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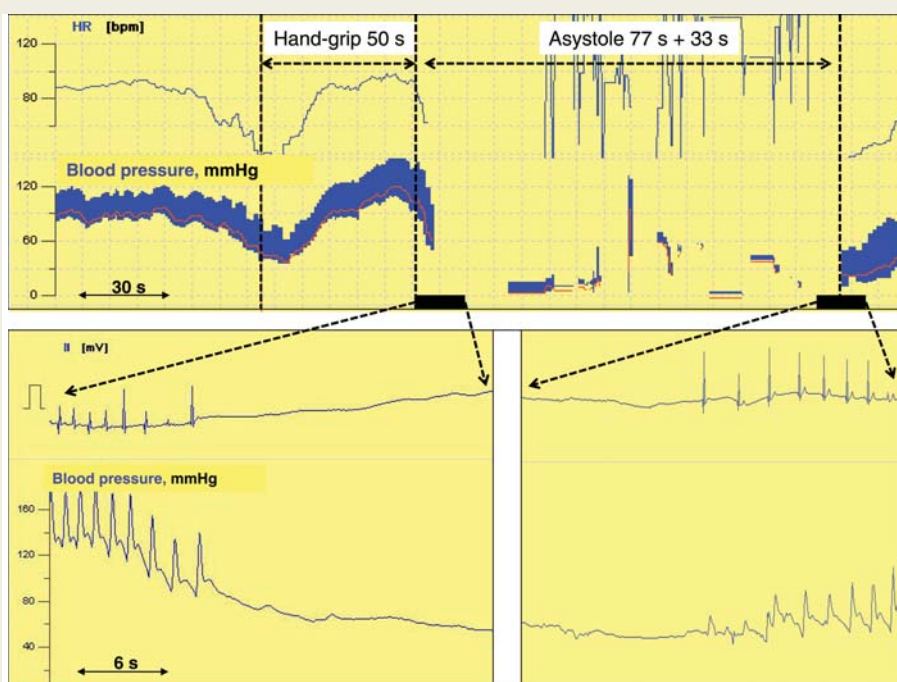
A very prolonged asystolic vasovagal syncope is suspended but not aborted by counterpressure manoeuvre

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A 30-year-old otherwise healthy woman, referred to our Syncope Unit for typical recurrent vasovagal syncopes since her youth (1 per year on average, no secondary trauma), underwent tilt testing in order to train herself to recognize reflex susceptibility and to start counterpressure manoeuvre therapy at the time of onset of symptoms of impending syncope (biofeedback training). Tilt testing, performed 6 months before, had induced, during nitroglycerin challenge, a typical cardioinhibitory response with an asystolic pause of 13 s (top panel). The figure is expanded and the first part of the tilt testing is not shown. The top trace shows the heart rate curve; the bottom trace shows systolic, diastolic, and mean blood pressure



curves. Two minutes after nitroglycerin administration, the patient showed a transient sinus tachycardia up to 100 bpm followed by a typical symptomatic hypotension/bradycardia reflex with drop in arterial blood pressure until 70 mmHg and in heart rate until 38 bpm. At that time she was asked to activate the hand-grip counterpressure manoeuvre which resulted in a rapid increase of systolic blood pressure up to 160 mmHg and heart rate up to 90 bpm and symptom relieved. Immediately after stopping the manoeuvre, the heart rate and blood pressure decreased again rapidly in a few seconds. Syncope occurred at that time and the patient was immediately tilted down. Finally, while supine, two consecutive (separated by one single beat) very prolonged asystolic pauses of 77 and 33 s occurred. The beginning and the end of the pause is expanded in the bottom panel. During the pause, she had an episode of myoclonic jerks. She recovered spontaneously and completely a few minutes after rhythm resumption.

To our knowledge, this is the longest asystolic vasovagal reflex ever reported. Even if it was fairly well tolerated, this finding suggests some caution when performing such tests. This observation suggests that the counterpressure manoeuvre suspends the hypotension/bradycardia reflex for the time it is applied, but this latter is still active and reappears at the end, perhaps even exacerbated by the manoeuvre itself. However, in light of literature in the field, this response should be regarded as an unusual finding. It is speculated that the counterpressure manoeuvre counteracts the efferent outflow pathway of the reflex but has no effect on the central sites where the vasovagal response is elicited.