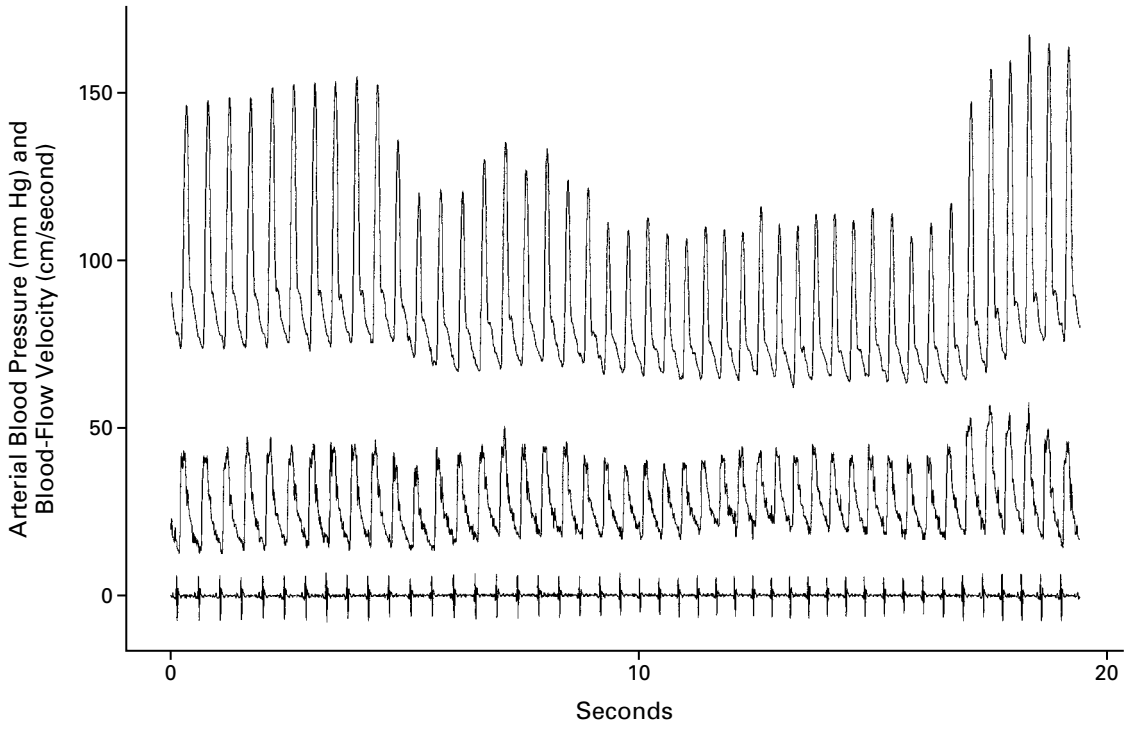

Figure 1. Blood-Flow Velocity of the Middle Cerebral Artery (Top) and Arterial Blood Pressure (Center) after a Deglutition Test. The electrocardiographic tracing is shown at the bottom of the panel. Zero indicates the time of swallowing.

anoreceptors that innervate the esophagus, bowel, bladder, and other organs. They are activated by stretching. Susceptible persons with autonomic hypersensitivity may respond differently to specific noxious stimuli, and the response may vary in a given person. The proposed mechanism responsible for reflex syncope is the activation of mechanoreceptors, which causes vagal afferent stimulation. This stimulation leads to sympathetic withdrawal, resulting in peripheral vascular dilatation and hypotension, causing cerebral hypoperfusion (which is offset in some persons by cerebral vasoconstriction) and, possibly, syncope. Sinus bradycardia or atrioventricular block due to parasympathetic efferent activation is not necessarily a part of the mechanism. Also, other mechanisms may be at play.

We are not aware of any study in which vagal afferent activation is measured directly from esophageal stimulation caused by cold liquids. The integrity of the vagus nerve, as measured by Valsalva's maneuver or deep breathing, may not reflect the integrity of this specific limb of the nerve.

Deglutition syncope, triggered by the drinking of cold, carbonated beverages, appears to initiate this reflex cascade by first activating local mechanoreceptors. Achalasia and esophageal cancer, among other triggers, can predispose patients to this swallow reflex. We have observed patients with achalasia who have syncope only when swallowing large pills or large boluses of food. Others have described a similar response (or even worse) to the consumption of "sticky croissants" (Belaieff JC: personal communication) or cold beer. An inscription in Westminster Abbey in London (van Stelten R: personal communication) reads: "Many a man young and old has gone to his sarcophagus by pouring liquid icy cold down too hot an esophagus." The tombstone of one such unfortunate at Winchester Cathedral describes the death of Thomas Thetcher in 1764, as follows: "Here sleeps in peace a Hampshire Grenadier/Who caught his death by drinking cold small Beer./Soldiers be wise from his untimely fall/And when yere hot drink Strong or none at all."

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The Freezing of Time as a Presenting Symptom of Parkinson's Disease

To the Editor: Parkinson's disease, like most chronic conditions, often announces itself in subtle but telling ways. We recently encountered a 68-year-old woman whose presenting symptom was that of time standing still.

The woman's husband had given her and their daughter each a self-winding watch. After the patient had worn the watch on her left wrist for a few days, it stopped working. She returned the watch to the manufacturer, who after eval-

uating it assured her that it was functioning perfectly. She then exchanged watches with her daughter, but after she had worn her daughter's watch for a few days, it too stopped. The woman's original watch, now being worn by her daughter, was working well, so the woman took that one back. Now the patient wore the watch on her right wrist, and it kept time properly. Unaccustomed to wearing a watch on her right wrist, however, she moved it back to her left wrist. Within a few days the watch stopped working again. Abandoning self-winding watches, the woman bought a battery-operated watch and gave the matter no further thought.

Three years later, a tremor at rest developed in her left arm. Examination revealed mild bradykinesia and rigidity of the arm, with a resting tremor characteristic of Parkinson's disease. She was treated with levodopa, and her symptoms improved.

Self-winding watches do not have a battery or an external winding device. They are powered by an internal ratchet mechanism that relies on normal motion of the arm to wind an internal spring, and they cease keeping time if they are motionless. In retrospect, this woman's self-winding watch probably stopped working when she wore it on her left wrist because there was a lack of spontaneous activity in that arm; the decrease in arm movement was far too slight to attract notice but enough to stop a sensitive watch. This unusual "freezing of time" was the first symptom of her Parkinson's disease.

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