Asystole with carotid sinus hypersensitivity

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A 72-year-old male experienced syncope after standing from a seated position. Bystanders noted he was pulseless, and cardiopulmonary resuscitation was briefly performed until emergency medical services arrived, when he was noted to have a pulse. On hospital admission, electrocardiogram showed normal sinus rhythm with no ST-segment or T-wave abnormalities. Heart rate was 64 beats per minute and blood pressure was 133/67 mmHg. He admitted to syncope 4 years prior while driving.

When carotid sinus massage was performed, his breathing ceased and he immediately lost consciousness. Simultaneous telemetry captured an 8-second period of sinus arrest and ventricular asystole. Dual-chamber pacemaker was implanted for symptomatic carotid sinus hypersensitivity and he remains asymptomatic at long-term follow-up.

Carotid sinus hypersensitivity, a cause of syncope, can be readily detected with physical examination in a monitored setting. Permanent pacing is indicated for recurrent syncope when carotid sinus massage induces 3 or more seconds of ventricular asystole.

Figure 1. Telemetry recording demonstrating 8-second period of sinus arrest with ventricular asystole (time 16:46:57–16:47:05) induced by carotid sinus massage
Learning points:

- Carotid sinus hypersensitivity is an uncommon cause of syncope which can be diagnosed with carotid sinus massage during cardiac monitoring.
- Implantation of permanent pacemaker in symptomatic patients is indicated when carotid sinus massage induces at least 3 seconds of ventricular asystole.

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