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Background

Deglutition syncope was first identified by Thomas Spens in 1793 as a rare form of neurally-mediated transient loss of consciousness secondary to an atypical vasovagal reflex during swallow-induced esophageal dilation. Due to the lack of validated diagnosing criteria, detailed history is imperative to guide timely evaluation and management.

Key Points

- Deglutition syncope may occur within 3 to 5 seconds of swallowing. Often this manifests as presyncope, with associated visual grey-out, tunnel vision.
- Deglutition syncope is frequently triggered by liquids, particularly cold, carbonated beverages.
- Deglutition syncope is caused by stimulation, irritation, or dysfunction of the afferent origin of a vagovagal reflex (i.e., the distal esophagus), the vagus nerve itself, or the efferent target of the vagovagal reflex (i.e., the heart).

Case

A 58-year-old male presented to the ER after a syncopal episode. He reports multiple syncopal episodes over the past five years associated with swallowing food or beverage. During the most recent incident, the patient reported consuming a sandwich when he started feeling fullness in his throat with associated lightheadedness and diaphoresis prior to a syncopal episode. Patient's ED course was unremarkable with stable vitals, no orthostasis, negative troponin, chest radiography, and ECG. Patient was admitted for further syncope work up.

Vitals

On presentation in the ER:
Temp 37.1 C; HR 60; RR 17; BP 148/87

Recorded HR in bpm on Telemetry:

- 103
- 63
- **52**
- 65
- **36**
- 67
- **58**
- 74
- **57**
- **55**
- **56**
- **57**

Definition of Bradycardia
A slow or irregular heart rhythm, usually *fewer than 60 beats per minute*.

Symptoms

- Dizziness
- Fatigue
- Shortness of Breath
- Syncope

Orthostatic BP results:

- Lying = 130/82
- Sitting = 122/80
- Standing = 122/80

Patient History

Past Medical History

- Bipolar type II
- PTSD
- Anxiety
- Cocaine abuse
- Methamphetamine abuse

Surgical History

- Denies

Family History

- Mother has SLE
- Father has DM

Social History

- Started smoking cigarettes at 30 y/o, smokes marijuana

Allergies

- NKDA

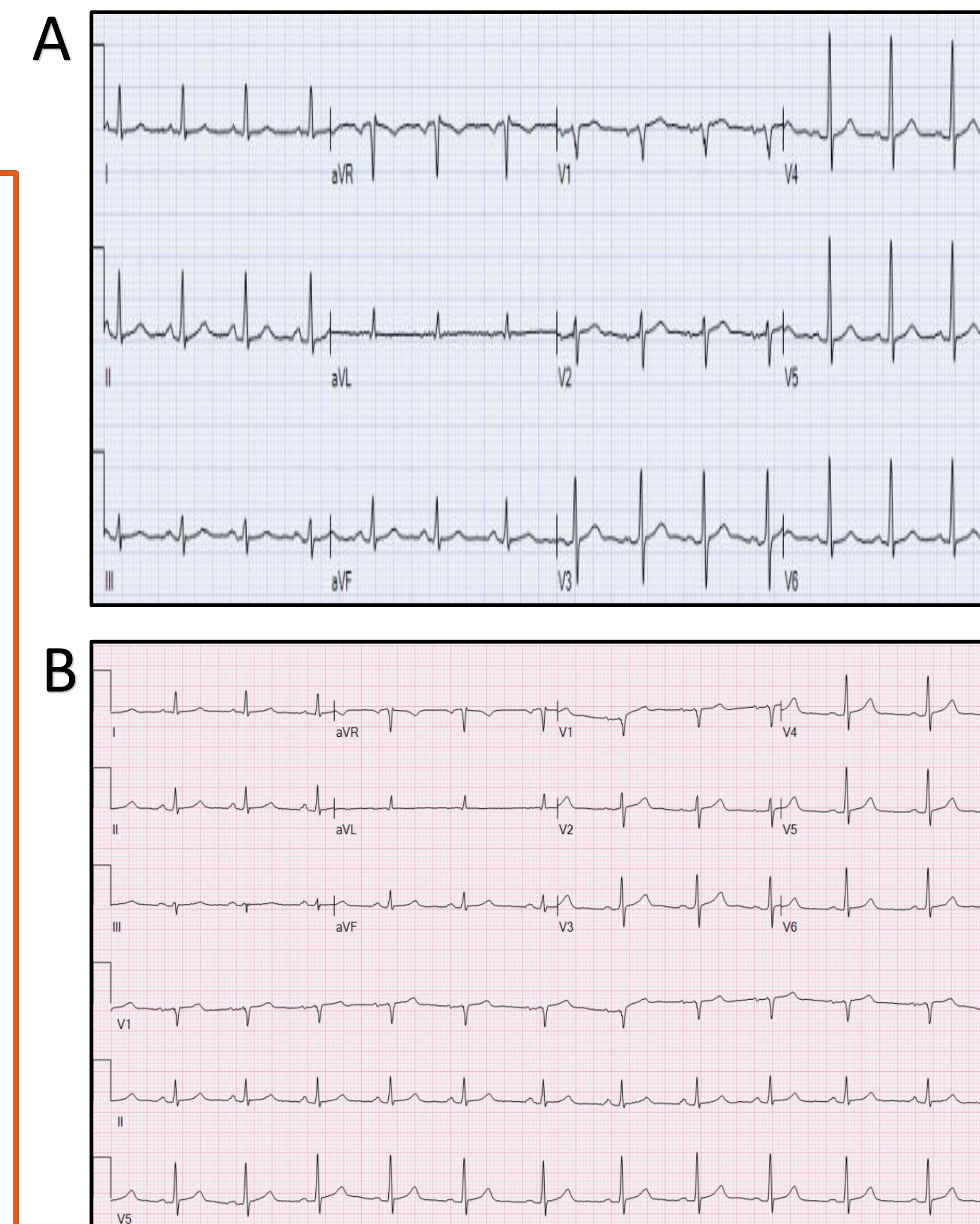


Figure 1. 12 lead EKG recorded one month prior to admission demonstrating normal sinus rhythm and no underlying abnormalities (A). 12 lead EKG recorded during time of admission demonstrating normal sinus rhythm and no underlying abnormalities (B).

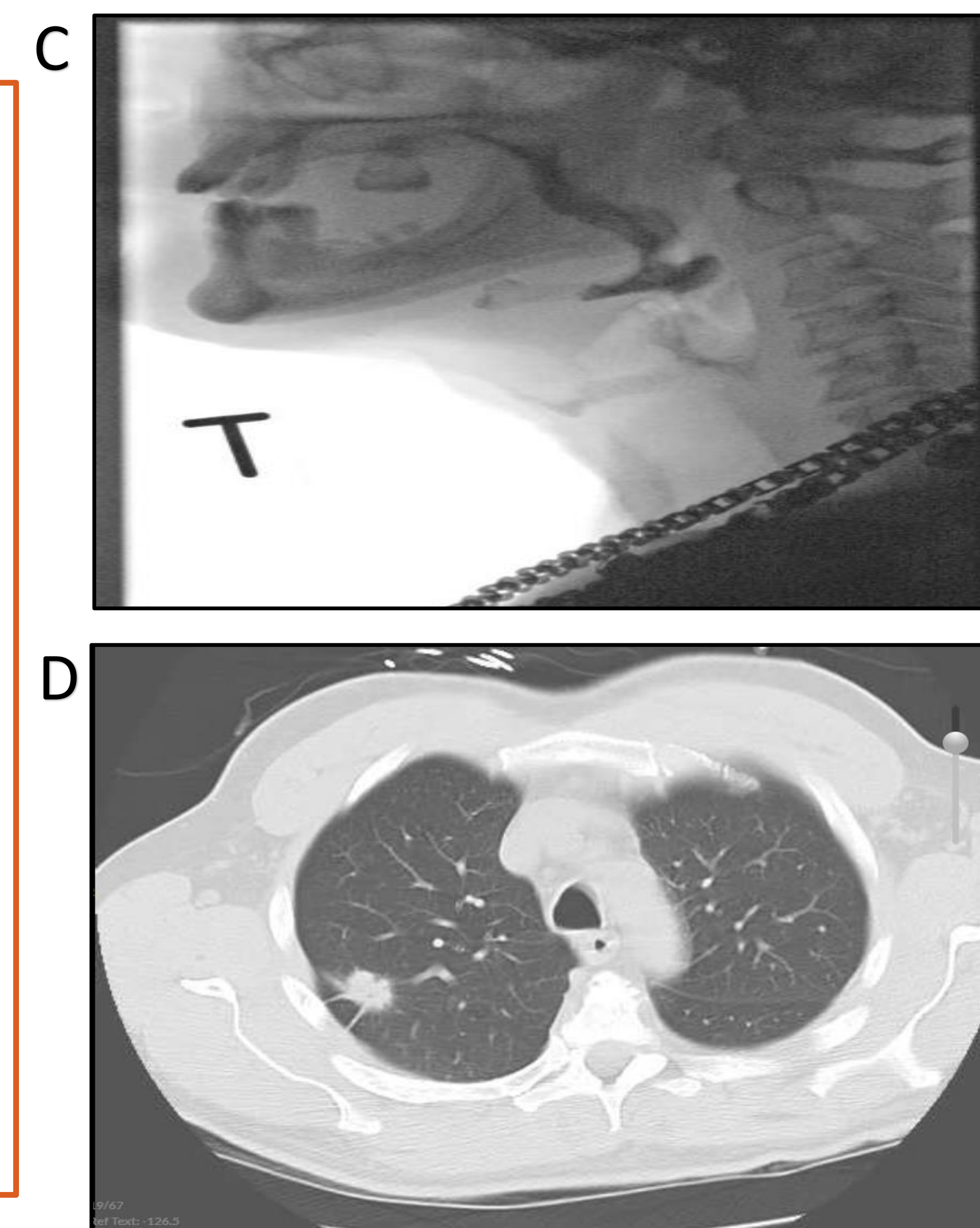


Figure 2. Barium swallow study demonstrating no anatomic or functional abnormalities (C). CT scan of chest demonstrating incidental finding of a spiculated lesion in the right lung (D).

Physical Exam

General Appearance:

A/O x3; Cooperative; No acute distress; Looks stated age; Well developed; Well nourished

Mouth/Throat:

Lips normal; Mucosa moist; Poor dentition

Neck:

Supple; Nontender

Respiratory:

No respiratory distress; Lungs clear; No accessory muscle use; Normal breath sounds

Cardiovascular:

RRR; No murmurs; Peripheral pulses normal

Neurological:

Non-focal; Cr nerves intact; Motor grossly normal; Sensory grossly normal

Differential Diagnosis

- Orthostatic Hypotension
- Cardiac: Arrhythmogenic
- Cardiac: Structural
- Vasovagal Syncope
- Situational Syncope
- Transient Ischemic Attack
- Metabolic Disorders
- Intoxication
- Carotid Sinus Syndrome
- Conversion Disorder
- Cataplexy

Decision Making

Modified barium swallow study and a CT chest were performed to evaluate for dysphagia and anatomical abnormality, which revealed mild esophageal reflux and a normal anatomy, respectively. The patient was permitted to eat and was placed on continuous telemetry. He had several witnessed syncopal events while eating. Corresponding telemetry strips demonstrated bradycardia with the lowest recorded heart rate of 10 bpm along with a 3 second pause.

An echocardiogram revealed an EF of 35-40% without significant structural abnormalities. A left heart catheterization revealed normal coronaries. Given his symptomatic bradycardia associated with swallowing, a permanent pacemaker device was suggested as a definitive treatment. Patient requested time to consider the decision, but ultimately decided to leave the hospital against medical advice.

Conclusion

This case demonstrates the broad differential for syncope and a lack of validated diagnostic criteria for situational syncope. We have excluded esophageal and structural pathology. Patient's symptoms were corresponding to telemetry findings. His psychiatric illness and substance dependence made management challenging, but detailed history and high clinical suspicion guided our diagnosis.

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