A challenging image during pacemaker implantation 🚳

A 60-year-old female patient was admitted to our hospital with the complaints of syncope and palpitation. She had undergone coronary artery bypass graft surgery 2 years previously and was not taking any medications at the time of presentation. Her electrocardiography on admission was in normal sinus rhythm. Twenty-four-hour Holter monitoring revealed frequent pauses up to 5 seconds with paroxysmal bradycardia and tachycardia episodes. Coronary angiography showed that all coronary grafts (left internal mammarian artery-left anterior descending artery, saphenous vein-right coronary artery) were patent. In view of the Holter findings and the patient's symptoms, a dualchamber pacemaker implantation was planned. Before the procedure, the patient was well hydrated, and the left subclavian vein was chosen for implantation. Because multiple attempts to puncture the subclavian vein were unsuccessful, a venography was performed and revealed a challenging image (Fig. 1, Video 1). Despite incremental doses of nitroglycerin via the ipsi-



Figure 1. Venography after initial unsuccessful attempts

lateral peripheral vein, this image did not change (Fig. 2, Video 2). A last attempt by a lateral approach was than successful with cannulation of the subclavian vein, but there was no good flashback. However, a hydrophilic guidewire was tried, and it was successfully passed through this segment without difficulty. A dual-chamber pacemaker was implanted with no post-procedural event.

What is the possible cause of this image?

- A. Venous thrombosis
- B. Subclavian vein and artery transposition
- C. Venous spasm
- D. Paget-Schroetter Syndrome

Video 1. Venography after initial unsuccessful attempts **Video 2.** Venography after nitroglycerin application



Figure 2. Venography after nitroglycerin application

Answer: p. 91

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