

Images in Cardiovascular Disease



More Is Not Always More: A Timely Reminder Why Not to Use Too Much Hardware

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Conflict of Interest

The authors have no financial conflicts of
interest.

A healthy 79-year-old male with non-*ischaemic* cardiomyopathy underwent an implantable cardioverter defibrillator (ICD) insertion 7 years ago following presentation with a haemodynamically significant ventricular tachycardia. A 9 French dual coil ventricular and a 6 French atrial lead were inserted transvenously. While considering an upgrade to a biventricular device due to symptomatic heart failure, striking bilateral symmetrical varicosities over the chest and abdomen (**Figure 1A and B**), suggestive of superior vena cava (SVC) obstruction, were noted. Echocardiography showed severely impaired left ventricular systolic function. On questioning, he admitted to having a fuzzy head and dizziness when bending over. Chest X-ray showed normally positioned dual coil ICD from a left

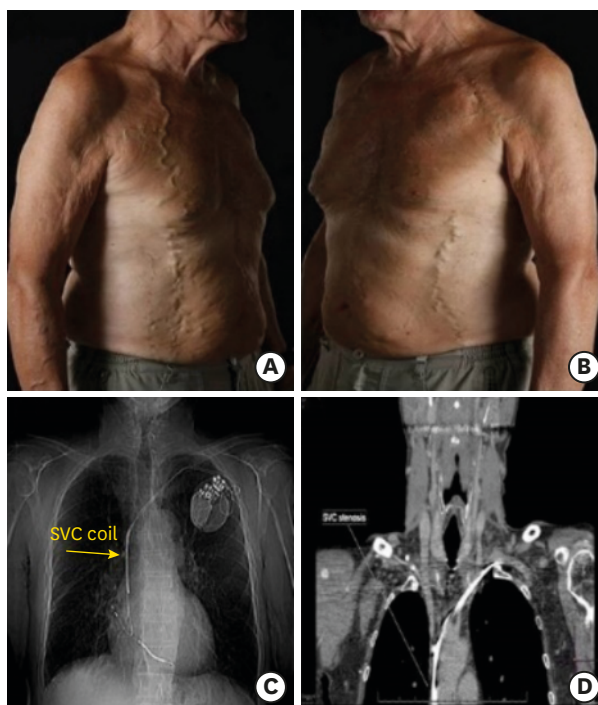


Figure 1. Striking bilateral symmetrical varicosities over the chest and abdomen (A, B), suggestive of SVC obstruction. Chest X-ray showed normally positioned dual coil ICD (C). Computed tomography venogram confirmed stenosis of the SVC (D).
ICD: implantable cardioverter defibrillator, SVC: superior vena cava.

Author Contributions

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infraclavicular approach (**Figure 1C**). Computed tomography venogram confirmed stenosis of the SVC (**Figure 1D**). SVC obstruction is a known entity (in up to 30% cases) in the context of bulky ICD leads. However, it remains asymptomatic and thus often goes unnoticed until the need for device upgrade with a new lead or extraction arises.¹⁾ Having said that, venous engorgement such as in our case is very rare. One of the common causes of stenosis at the right atrium (RA) - SVC junction is the SVC coil of a dual coil ICD. Superiority of dual, versus single coil leads, in terms of defibrillation efficacy remains to be proven.²⁾ Moreover, the SVC coil increases lead complexity, cost, risk of lead failure, and lead removal.³⁾ Also, in the absence of a bradycardia indication, the potential of an additional atrial lead to enhance arrhythmia discrimination, reduce inappropriate shocks, rate of hospitalization and mortality has not been borne out by scientific studies.⁴⁾ A SVC coil induces not only wall adhesions, but also sclerotic reorganisation of the venous wall resulting in stenosis and obstruction.¹⁾

In our patient, we are managing his heart failure with optimal medical therapy including angiotensin receptor antagonist and neprilysin inhibitor and sodium glucose transporter 2 inhibitor. We anticipate the need for a venoplasty of the SVC-RA junction if we do ever consider upgrading his ICD with a new left ventricular lead. In retrospect, the SVC obstruction may have been prevented if a single coil ICD was implanted in the first place. In contemporary practice of ICD implantation, an SVC coil can cause more trouble than be of benefit to a patient.

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