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STUDIUM PRZYPADKU / *CLINICAL VIGNETTE*

Superior vena cava syndrome in a 37-year-old woman with a cardioverter-defibrillator

Zespół żyły głównej górnej u 37-letniej kobiety z kardiowerterem-defibrylatorem

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A 37-year-old woman was admitted to the cardiology department because of a clinical suspicion of superior vena cava (SVC) syndrome. This suspicion was based on anamnesis of decreased physical effort tolerance with recurrent facial and eyelid oedema, resistant to an antiallergic treatment. At the age of 16, the patient had been diagnosed as having hypertrophic obstructive cardiomyopathy. After one year, a dual-chamber pacemaker was implanted to decrease the maximum left ventricular outflow tract gradient. Sixteen years later, an implantable cardioverter-defibrillator (ICD) was implanted as primary sudden cardiac death (SCD) prevention due to the following risk factors: recurrent non-sustained ventricular tachycardia, persistent massive interventricular septum hypertrophy, and a family history of SCD. The former pacemaker unit was removed, but the two leads were left with distal tips localised in the right atrium and right ventricle and proximally cut off and secured in the area of the primary pacemaker cavity. The implantation of a dual-chamber ICD was complicated by pneumothorax. Next, in order to verify the diagnosis of SVC syndrome, phlebography of the intrathoracic venous system was performed. This confirmed the obstruction of both left and right subclavian vein, as well as of the SVC (Figs. 1, 2). This caused a collateral circulation through the thoracic wall venous system to develop. Additionally, all four leads of both the former and the current implantable devices were visualised, two of them being actively fixated in the right atrium and the right ventricle (Fig. 3). In transthoracic echocardiography, there was no thrombus visible in the right heart cavities and the echoes of hyperechogenic atrial and ventricular leads were visualised (Fig. 4). Due to the final diagnosis of SVC thrombosis, antithrombotic treatment was initiated — starting with a therapeutic dose of low molecular weight heparin followed by a vitamin K antagonist with target international normalised ratio ranged 2.5–3.0. In conclusion, redundant leads of electrotherapy devices left in the venous system can generate significant health complications. Careful consideration of indications for electrotherapy devices implantation may help prevent future complications, especially in young patients.

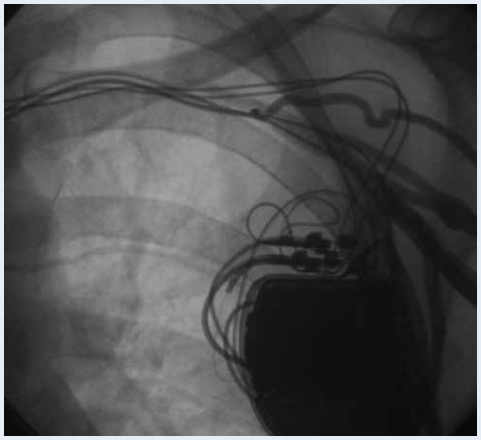

Figure 1. Obstruction of the left subclavian vein and the ICD unit area

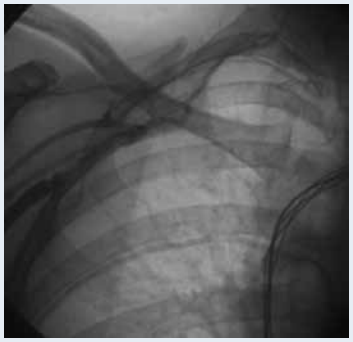

Figure 2. Obstruction of the right subclavian vein and the superior vena cava

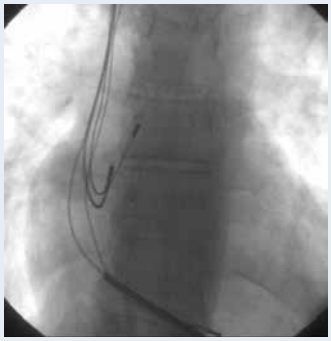

Figure 3. The four leads of both former and current implantable devices

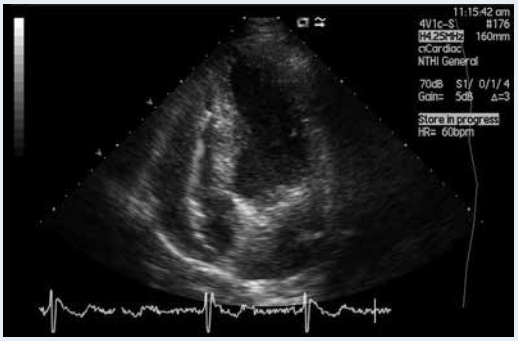

Figure 4. Hyperechogenic leads in the right atrium and the right ventricle

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Conflict of interest: *none declared*