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STUDIUM PRZYPADKU / *CLINICAL VIGNETTE*

First Polish experience in follow-up care of a patient with a subcutaneous cardioverter-defibrillator (S-ICD)

Pierwsze polskie doświadczenia w opiece nad chorym z implantowanym podskórnym kardiowerterem-defibrylatorem serca (S-ICD)

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Subcutaneous cardioverter-defibrillator (S-ICD) is a device that has been implanted in Europe since 2009. Indications for a S-ICD in the prevention of sudden cardiac death are the same as for a conventional transvenous ICD, with the exception that the S-ICD is not capable of terminating ventricular arrhythmias with anti-tachycardia pacing, but it can solely use 80-joule electric shocks. The S-ICD system consists of a can, placed subcutaneously (or under the muscles of the thoracic wall) on the level of the fifth left intercostal space in midaxillary line, and a lead also placed subcutaneously, along the left border of the sternum. Until now, such defibrillators have not been implanted in Poland. A man aged 40 years was admitted to our clinic in January 2014 because of pain and livedo of the S-ICD pocket (Cameron Health model 1010 SQ-RX). The device had been implanted in the United States in December 2013, because of prior primary ventricular fibrillation (VF). Physical examination showed substantial skin thinning over the S-ICD can and its local livedo (Fig. 1). Threatening pocket erosion was diagnosed. Laboratory tests did not show signs of systemic bacterial infection. Because of the clinical picture and the history of signs and symptoms directly following the implantation procedure, and a substantial risk of pocket infection, we initially decided to remove the system and replace it with a transvenous ICD. Because of the patient's preference, bearing in mind a low procedural risk of the possible future system removal in case of bacterial infection, we then decided to perform the pocket plasty. On 21 February 2014, under general anaesthesia, the S-ICD pocket was opened with a left subscapular incision. No macroscopic signs of infection were observed. The axillary border of the muscle latissimus dorsi was dissected free, and the posterior edge of the S-ICD can was displaced underneath it. Subsequently, from the incision anterior to the can, the border of the serratus muscle was dissected free and sutured to the previously freed margin of the muscle latissimus dorsi over the can, which resulted in complete coverage with a muscle layer. The lead was neither dissected nor displaced. ICD test was conducted immediately after the procedure. VF was induced twice. The first VF episode was not terminated with a test shock of 65 J. After polarity change, a second attempt resulted in successful defibrillation (65 J). The patient was discharged after three days. Sutures were removed after ten days. Two months later, we confirmed the correct healing of the wounds (Fig. 2). The case described above proves how important is the correct placement of the S-ICD can. Too shallow location (directly underneath the skin surface) may lead to a threatening erosion of the device pocket.

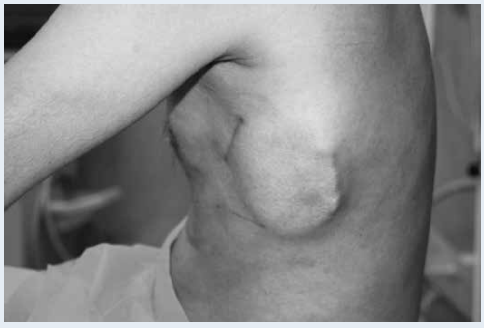

Figure 1. S-ICD pocket directly before the plasty procedure

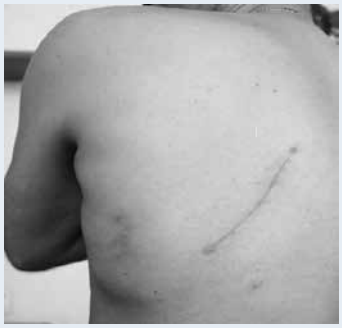

Figure 2. S-ICD pocket two months after the plasty procedure

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