Pre-hospital cardiac arrest treated successfully with automated external defibrillator

Przedszpitalne nagłe zatrzymanie krążenia skutecznie zresuscytowane z wykorzystaniem automatycznego zewnętrznego defibrylatora

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A twenty-eight-year-old woman with a history of mitral prolapse, palpitations, and unexplained syncope in the past was admitted to hospital after cardiac arrest, which was successfully reanimated with an automated external defibrillator (AED) device by witnesses in the patient's workplace. She was resuscitated immediately by her co-worker, a paramedic, using an AED available at public place. The first recorded rhythm was ventricular fibrillation. Figure 1 shows the electrical signal recorded by AED. We can see ventricular fibrillation and artefacts from chest compressions in the middle of the



figure. The artefacts allow us to determine if chest compressions were performed. Some devices and pads additionally give information about chest compression efficacy. During the resuscitation three shocks were delivered by AED (120 J, 150 J, and 200 J, respectively). A haemodynamically stable rhythm was restored with the last shock about 7 min after the beginning of resuscitation. During the hospitalisation no cause of tachyarrhythmia was diagnosed despite intensive cardiac and extra-cardiac diagnostic procedure including electrophysiological investigation. An electrophysiological investigation was undertaken and atrioventricular nodal reentrant tachycardia with heart rate 220/min was evoked and subjected to ablation procedure. Ventricular tachycardia was induced during the electrophysiological examination. As secondary prevention, with respect to expected long survival, the patient was implanted with a subcutaneous implantable cardioverter-defibrillator.

Figure 1. Electrical signal recorded by automated external defibrillator during resuscitation of pre-hospital cardiac arrest

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