EEG registration during ventricular tachycardia and resuscitation

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We report a 68-year-old man who developed ventricular tachycardia (VT) during 21-lead EEG monitoring (figure and video). The EEG developed slowing and reduction in amplitude of higher frequency elements after 40 seconds of VT, whereas this is known to occur within 30 seconds in case of asystole.¹ EEG activity returned several seconds after initiation of chest compressions, reflecting an increase in cerebral perfusion. A similar observation has previously been reported in a patient with asystole who also underwent chest compressions during EEG registration.² EEG registration of resuscitation during ventricular tachycardia is rare. In our case, resuscitation was successful and the patient recovered well. This case illustrates how promptly initiated basic life support can help maintain cerebral perfusion and metabolism during life-threatening cardiac arrhythmia.

Author contributions

J.M. Biesbroek: drafting/revising the manuscript, study concept or design, analysis or interpretation of data. E.M. Hopmans: drafting/revising the manuscript. A.A. Seeber: drafting/revising the manuscript. S.C. Tromp: drafting/revising the manuscript, study supervision.

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(A) EEG activity prior to cardiac arrhythmia. (B) Onset of diffuse slowing and attenuation of high-frequency elements approximately 40 seconds after VT onset. (C) Initiation of chest compressions. (D) Resumption of higher frequency EEG background activity during chest compressions (chest compression artifacts indicated by the red arrows), which remains for a few seconds after chest compressions are ceased.