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An electrocardiographic proof of substrate modification during ablation of tetralogy of Fallot associated right ventricular tachycardia

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A 54-year-old man with corrected tetralogy of Fallot was referred for ventricular tachycardia (VT) ablation due to appropriate implantable cardioverter-defibrillator (ICD) shocks. He had an ‘epsilon-type’ late wave on V1–V3 in sinus rhythm (Figure 1A) and three inducible fast left bundle branch abnormality pattern VTs with inferior or superior axis. A right ventricular voltage map showed a large scar with two low-voltage isthmuses on the free wall (Figure 1B). An area of diastolic potentials was ablated using an irrigated tip ablation catheter (35 W) (Figure 1C; corresponding to a brown spot on Figure 1B), with subsequent elimination of the late wave on the electrocardiogram. An extensive ablation was completed targeting fragmented potentials located within the isthmuses and around the scar. The patient was non-inducible at the end of the procedure and there was no recurrence of the late wave either in ICD therapies after a 3 months of follow-up. Epsilon wave is an expression of late ventricular activation described in arrhythmogenic right ventricular dysplasia. A delayed activation zone and its ablation also had a clear electrocardiographic correlation in this repaired tetralogy of Fallot.

Conflict of interest: none declared.

Figure 1 Electrocardiogram, voltage map and intracardiac recording of the patient.