Slow automaticity of a Mahaim fibre after radiofrequency ablation

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A female patient presented with a symptomatic wide QRS tachycardia with left bundle-branch morphology (150 beats per minute), left axis deviation, and late precordial R/S transition. During the electrophysiological study an atriofascicular accessory pathway (Mahaim fibre) was identified and ablated by targeting the Mahaim potential (Figure A, arrow) at the lateral tricuspid annulus. During radiofrequency (RF) ablation, early Mahaim fibre automaticity occurred and subsided during ablation (Figure A). After the ablation, the tachycardia remained non-inducible and there was no pre-excitation with atrial pacing. At the 3-month follow-up, the asymptomatic patient presented with a slow rhythm identical to the automaticity recorded during ablation (Figure B). Spontaneous automaticity from Mahaim fibres has been reported in up to 12.5% of cases, and can present as slow asymptomatic rhythms or fast symptomatic tachycardia and occurs before, during, or immediately after successful ablation. The incidence of asymptomatic automaticity late after ablation is unknown.

The presented electrocardiogram is most likely explained by automaticity of the Mahaim fibre distal to the ablation site although an 'accelerated' idioventricular rhythm arising close from the ablation site cannot be ruled out. A slow antidromic rhythm can be excluded by the presence of atrioventricular dissociation.

The full-length version of this report can be viewed at: http://www.escardio.org/communities/EHRA/publications/ep-case-reports/Documents/Slow-automaticity-of.pdf.