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At last, mobile health leading to a diagnosis in a young patient with congenital heart disease

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A woman with congenital pulmonary valve stenosis treated by balloon valvulotomy had been visiting the outpatient clinic for many years with complaints of palpitations. Several 24-h electrocardiogram (ECG) recordings and resting ECGs (Fig. 1a) showed frequent premature ventricular contractions and two regular wide-complex asymptomatic tachycardias of a maximum of eight beats with a maximal frequency of 120 beats/min. However, these findings could not be related to her complaints.

The patient was included in a novel mHealth tele-monitoring program. While the patient was having palpitations, a single-lead ECG was recorded (Fig. 1b). On these additional recordings atrial fibrillation could be diagnosed with intermittent bundle branch block.

There is a broad aetiology of palpitations, and these often occur outside the window of 24-h Holter monitoring. This case is one of the first to illustrate that mHealth programs, including on-demand ECG monitoring, can be of great importance in the diagnosis of arrhythmias.

Conflict of interest M.A.C. Koole, G.A. Somsen, I.I. Tulevski, M.M. Winter, B.J. Bouma and M.J. Schuurings declare that they have no competing interests.

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Fig. 1 **a** Routine resting electrocardiogram (ECG) of the patient. **b** Recording of atrial fibrillation with intermittent bundle branch block by on-demand single-lead ECG in the mHealth program