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【 PICTURES IN CLINICAL MEDICINE 】

Smartwatch Detection of Undiagnosed Palpitations in a Juvenile

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Key words: smartwatch, juvenile, palpitation, atrioventricular nodal reentrant tachycardia, Apple Watch

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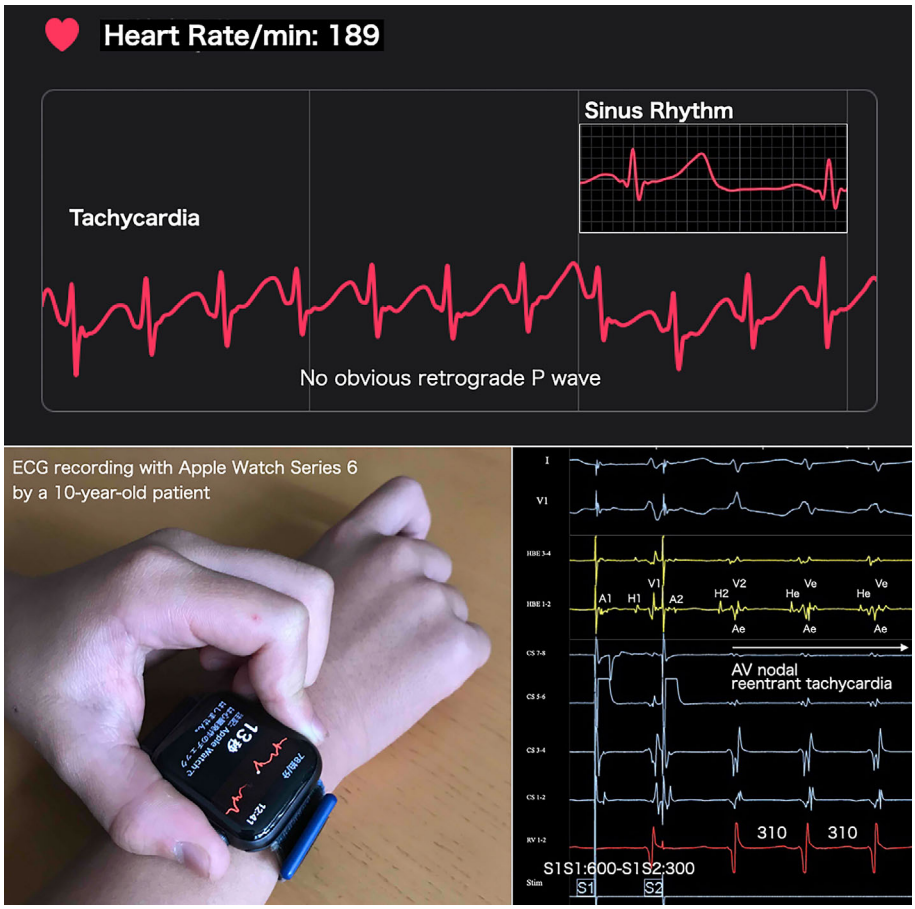

Picture.

A 10-year-old boy with a normal heart suffered from palpitations several times a week. Whenever he visited the hospital, the tachycardia disappeared and was not recorded by an electrocardiogram (ECG). We suggested his parents have him use an Apple Watch Series 6 despite being under the age limit (22 years old) for the ECG application. He experienced the same palpitations, which were recorded by his smartwatch. The ECG tracing presented a narrow QRS tachycardia with a heart rate of 189 bpm and no obvious P waves (Picture), suggesting atrioventricular nodal reentrant

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tachycardia. The patient subsequently underwent a catheter ablation procedure. The diagnosis was the same as that of the smartwatch, and the slow pathway was successfully eliminated by ablation. The Apple Watch Series 6 uses two electrodes (in the case and crown) to generate a single-lead ECG (1, 2) and is useful for monitoring symptoms caused by arrhythmias that are hard to detect by standard ECGs.

The authors state that they have no Conflict of Interest (COI).

References

1. Ahmed AS, Golden KM, Foreman JR, et al. Using a smartwatch to identify the morphology of atrial flutter. HeartRhythm Case Rep **6**: 808-809, 2020.
2. Burke J, Haigney MCP, Borne R, et al. Smartwatch detection of ventricular tachycardia: case series. HeartRhythm Case Rep **6**: 800-804, 2020.