

ECG wearable rhythm monitoring in covid-19 patients

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Background: Wearable monitors and external smart-phone enabled devices represent the new era in remote patient management during covid-19 pandemic. There is growing evidence showing that arrhythmias are one of the major complications of SARS-CoV-2 infection especially in high risk group of patients.

Methods: We enrolled 34 consecutive patients with confirmed diagnosis of SARS-CoV-2 (mean age 62.45 ± 5.25 years, 16 male). Remote wireless rhythm monitoring was performed using portable ECG sensor. Average follow-up period was 21 days during in-hospital stage and 2 months after discharge.

Results: Among hospitalized patients with verified SARS-CoV-2 some presented different arrhythmias before admission (9 patients had atrial fibrillation and 11 patients had history of ventricular extrasystoles and non-sustained ventricular tachycardia). One patient underwent cardiac transplantation 1.5 years ago (female 38 years old with a history of dilated cardiomyopathy) and one patient had implanted CRTD device as primary prevention (male 54 years old with a history of myocardial infarction and low LVEF 28%). Other 12 patients did not experience any cardiac arrhythmias before admission. During monitoring period one patient demonstrated asymptomatic pauses longer than 6 seconds (Figure 1) revealed by portable device. After 2 months of follow up he continued to have hemodynamically significant rhythm pauses and underwent pacemaker implantation. One patient had spontaneous AF conversion into sinus rhythm (Figure 2) also confirmed by wireless monitoring. Other patients did not demonstrate clinically significant arrhythmias. The duration of QT interval was also monitored during in-hospital period in all patients, average score was 451 ± 12 msec.

Conclusions: Using of wearable electronic devices may contribute to better monitoring of the state of patients and control of symptoms.

Abstract Figure. Hemodynamically significant rhythm pause

