

Takotsubo Cardiomyopathy Caused by Intense Emotional Stress Induced by Voluntary Quarantine During the Coronavirus Disease Crisis

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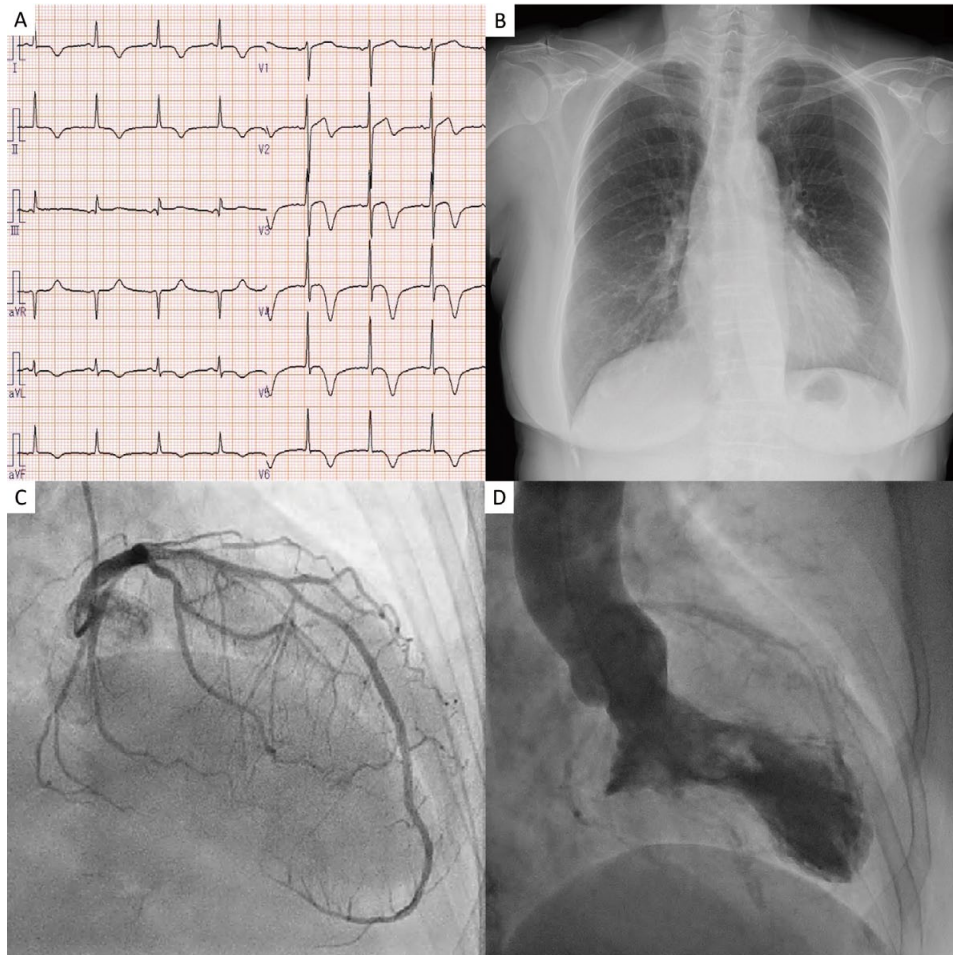


Figure. (A) Electrocardiogram showing a negative T-wave. (B) Chest XP showing no congestive findings. (C) Coronary angiography revealed no significant stenosis. (D) Takotsubo cardiomyopathy image on ventriculography.

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Takotsubo cardiomyopathy (TCM) is induced by intense emotional stress. Herein we present a typical case of TCM triggered by stress from voluntary quarantine during the coronavirus disease (COVID-19) crisis.

A 78-year-old woman was operating a restaurant in an area with no records of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infections. However, because of the nationwide declaration of a state of emergency, the restaurant closed down temporarily on April 10, 2020, leading to immense stress and pessimism in the patient. On April 20, the patient experienced severe chest pain during an argument with her family. She visited a local hospital. With no improvement in chest discomfort, she was referred to Shimane University Faculty of Medicine on April 22. The patient's chest pain subsided from 8/10 to 2/10, but the electrocardiogram showed a negative T-wave (**Figure A**) with positive troponin T. Chest XP showed no congestion (**Figure B**). Echocardiography revealed left ventricular apical akinesia and basal hyperkinesia (**Supplementary Movie**). Coronary angiography showed no significant stenosis (**Figure C**) with the TCM image on left ventriculography (**Figure D**).

The patient's subjective symptoms resolved without any medical treatment and she was discharged on Day 5 without any signs of heart failure.

TCM triggered by SARS-CoV-2 infection has been reported previously;¹ however, this is the first report of emotional stress-induced TCM associated with the nationwide voluntary quarantine during the COVID-19 crisis. Voluntary quarantine-induced stress may result in a spurt in the number of TCM cases in the near future.

Disclosures

K.T. is a member of *Circulation Reports*' Editorial Team. The other authors have no conflicts of interest to declare.

IRB Information

This study was approved by Shimane University Faculty of Medicine (Reference no. 4567).

Reference

1. Meyer P, Degrauwe S, Delden CV, Ghadri JR, Templin C. Typical Takotsubo syndrome triggered by SARS-CoV-2 infection. *Eur Heart J*, doi:10.1093/eurheartj/ehaa306.

Supplementary Files

Supplementary Movie

Please find supplementary file(s);
<http://dx.doi.org/10.1253/circrep.CR-20-0048>