

IMAGES IN EMERGENCY MEDICINE

Infectious Disease, Cardiology

Man with fever, cough and atypical chest pain

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1 | PATIENT PRESENTATION

A 57-year-old Chinese man presented to the emergency department with fever, cough, and atypical chest pain. He had no medical history of note. At triage, his temperature was 101.2°F (38.4°C). His physical examination was unremarkable. His white cell count was normal, but he was both lymphopenic and thrombocytopenic. High sensitivity troponin I was not elevated. The patient's 12-lead electrocardiography (ECG) at triage is shown (Figure 1).

2 | DIAGNOSIS

The ECG is consistent with a type 1 Brugada ECG pattern. It demonstrates an rSR' pattern with coved ST-segment elevations both in V1 and V2 (Figure 1). Given a positive contact history with COVID-19 cases, the patient was isolated given the clinical suspicion of COVID-19 pneumonia. His nasopharyngeal swab for COVID-19 RNA polymerase chain reaction testing returned positive. He was managed supportively with supplemental oxygen, and was discharged after 20 days (Figure 2).

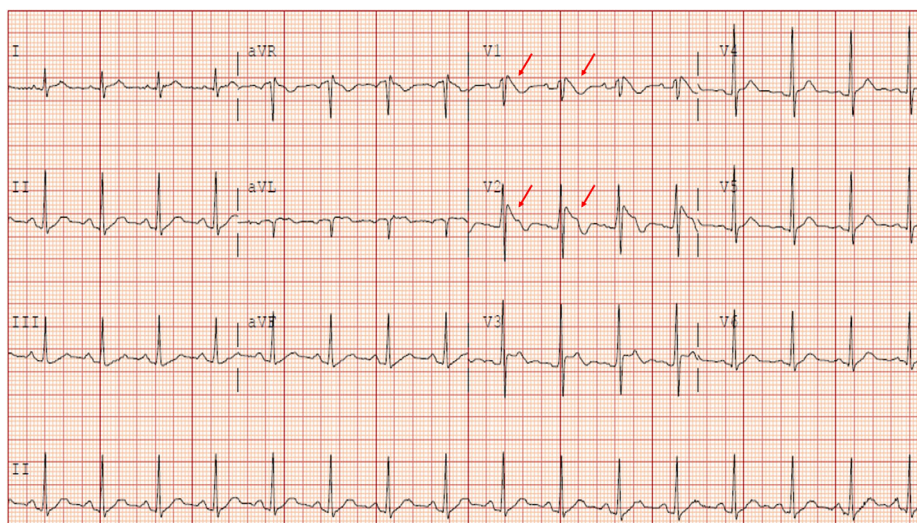


FIGURE 1 Initial electrocardiography (ECG) at triage. Arrows highlighting the rSR' pattern with coved ST-segment elevations in leads V1 and V2

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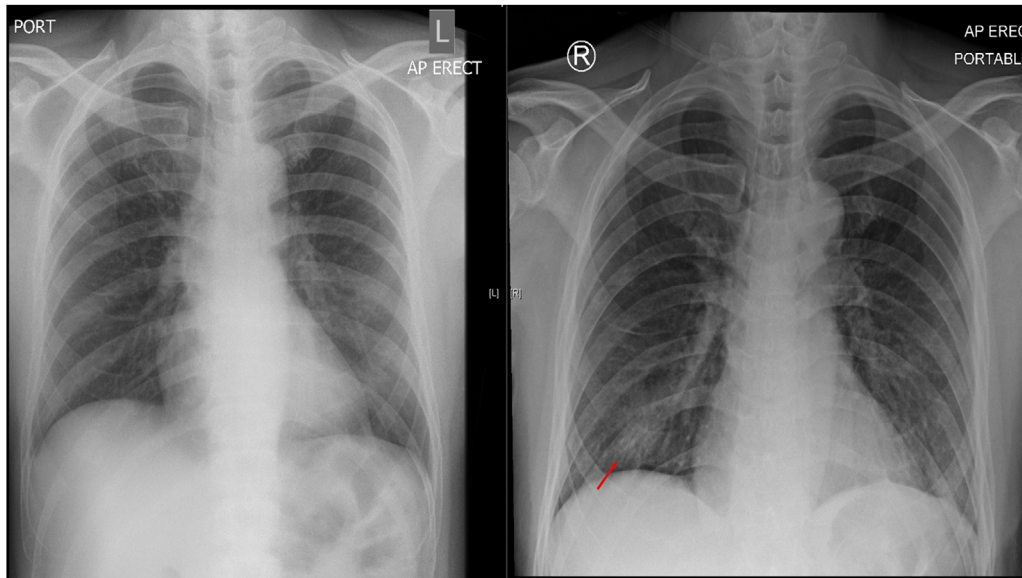


FIGURE 2 Chest radiograph on the left was performed on admission. Chest radiograph on the right was repeated on day 2 of admission when the patient turned hypoxic. Arrow highlighting new infiltrates from COVID-19 pneumonia

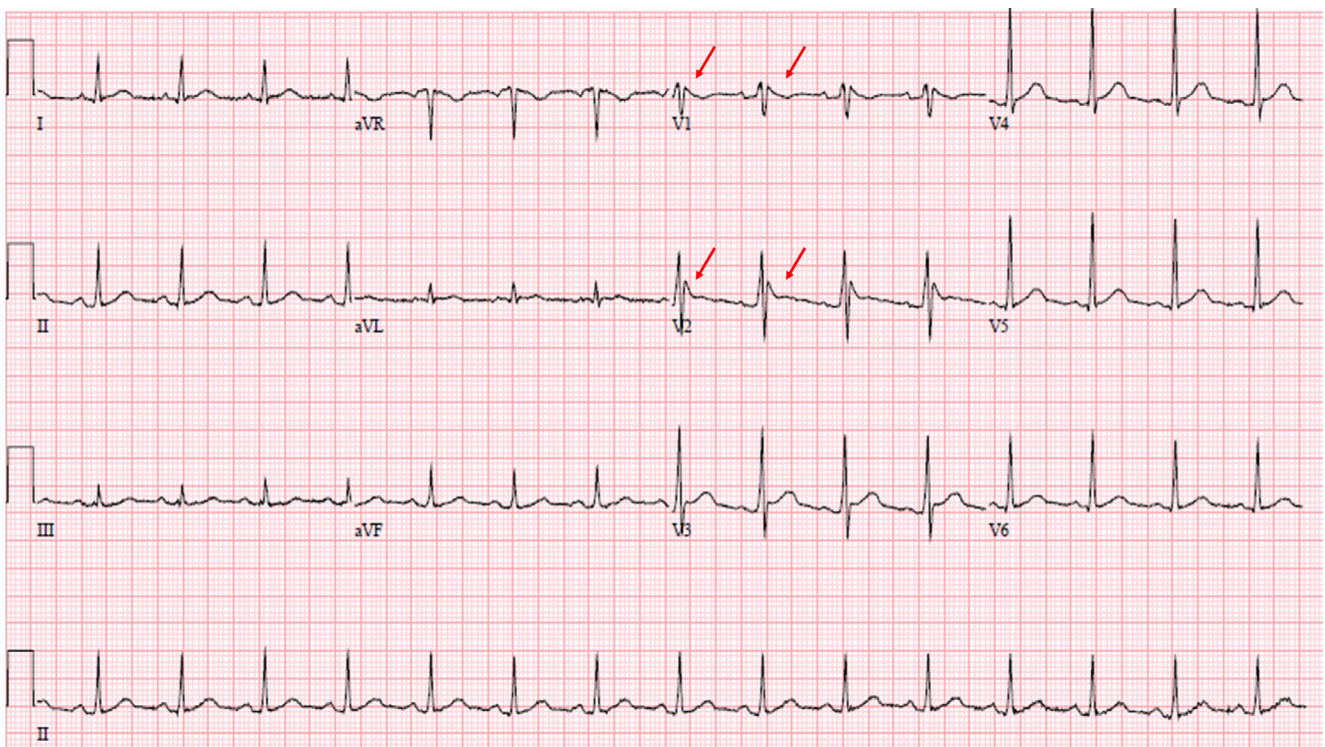


FIGURE 3 Repeat electrocardiography (ECG) when the patient was afebrile in the general ward. Arrows highlighting normalization of ST-segment elevations

His ECG showed normalization of ST-segment elevations once afebrile (Figure 3).

To the best of our knowledge, this is the first reported case of a type 1 Brugada ECG pattern unmasked by COVID-19 pneumonia. Brugada syndrome is more prevalent within Asia than in Europe or the United States.¹ Several factors such as certain drugs,

increase in vagal tone, and fever can unmask the type 1 Brugada ECG pattern.² Our patient’s presentation to hospital with COVID-19 pneumonia allowed for opportunistic diagnosis of an asymptomatic type 1 Brugada ECG pattern, and he has since been advised on avoiding specific medications, excessive exercise, and reducing fever.³

CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

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