

Multiple drugs

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Torsades de pointes and bradycardia: case report

An 84-year-old woman developed torsades de pointes (TdP) during treatment with chloroquine diphosphate, memantine and letrozole for COVID-19, Alzheimers disease and metastatic breast cancer, respectively. She additionally developed bradycardia during treatment with bisoprolol for arterial hypertension [*not all dosages and routes stated*].

The woman, who had a significant medical history including metastatic breast cancer, arterial hypertension and Alzheimers disease, had been receiving treatment with bisoprolol, memantine and letrozole. She was admitted due to COVID-19 with severe acute respiratory syndrome. At admission, ECG showed sinus rhythm (63 bpm) with narrow QRS complex and small Q waves in the inferior leads. Her corrected QT (QTc) interval was 462ms and QT interval was 450ms. For COVID-19, she was started on off-label treatment with oral chloroquine diphosphate 500 mg twice a day. After 5 days of treatment, no significant clinical change was observed. A follow-up ECG showed sinus rhythm of 47 bpm with extremely prolonged QT interval (720ms) and QTc interval was of 627ms.

The woman's chloroquine diphosphate treatment was stopped, as were the QT-prolonging drugs including memantine and letrozole. She also developed bisoprolol-related bradycardia and bisoprolol was discontinued. She was placed on continuous ECG monitoring, alongside potassium supplementation. Six hours later, she experienced multiple episodes of typical pause-dependent TdP. She remained alert and asymptomatic. Thereafter, she was treated with magnesium, magnesium sulphate, potassium diluted in sodium chloride [normal saline] and lidocaine. For the prevention of pauses precipitating TdP, she received isoprenaline [isoproterenol], following which all ventricular arrhythmias resolved. After 18 hours, isoprenaline was discontinued. She remained arrhythmia free. A subsequent ECG showed normalisation of QT interval. After 2 weeks, she was discharged [*time to reactions onset not stated*].

Szekely Y, et al. Chloroquine-induced torsades de pointes in a patient with coronavirus disease 2019. Heart Rhythm 17: 1452-1455, No. 9, Sep 2020. Available from: URL: <http://doi.org/10.1016/j.hrthm.2020.04.046>

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