

## 18. Frequent Ventricular Tachycardias and Syncope Induced by Osimertinib Intake: A Case Report

Beibei Du, Yanyu Zhang, Xingtong Wang, Yue Yang, Yuquan He, Ping Yang, China-Japan Union Hospital of Jilin University, Changchun, China

### Body

**Background:** Osimertinib, the third-generation EGFR tyrosine kinase inhibitor (TKI), had substantially improved the clinical outcome of non-small cell lung cancer (NSCLC) patients with EGFR mutations. However, QTc prolongation and ventricular arrhythmias related to Osimertinib are rarely reported and under-realized.

**Case:** A 60-year-old female patient was admitted to the hospital for palpitation and syncope. Electrocardiograph (ECG) showed prolonged QTc interval (532ms), frequent ventricular premature complexes (PVCs) and ventricular tachycardia. She had no previous cardiac diseases and had taken Osimertinib for 17 months to treat lung cancer. Osimertinib intake was considered the cause of arrhythmia after ruling out other causes. Osimertinib was discontinued and anti-arrhythmias treatments were prescribed to stop the arrhythmias, which did not improve. A temporary pacemaker was implanted to slow the heart rate and shorten the QTc interval. The initial pacing rate was 110 bpm, gradually reduced to 60-70 bpm within a week. Ventricular tachycardia did not occur during this period, and then the pacemaker was removed. Her symptoms gradually improved and her ECG had returned to normal (QTc 477 ms) at discharge. The one-month follow-up showed good recovery and normal ECG.

**Discussion:** Physicians should be vigilant to life-threatening ventricular arrhythmias induced by Osimertinib. The temporary pacemaker can facilitate the acute management of Osimertinib-associated QT prolongation and ventricular tachycardia.