الجمعية العمانية لطب القلب
OMAN HEART ASSOCIATION

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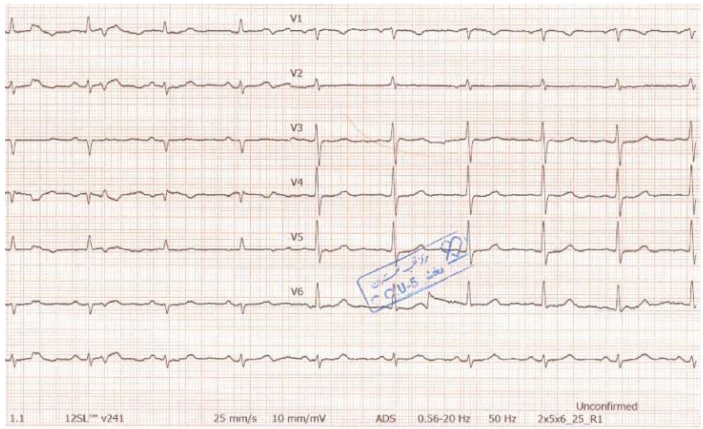
An interesting case series of Ticagrelor induced long QTc

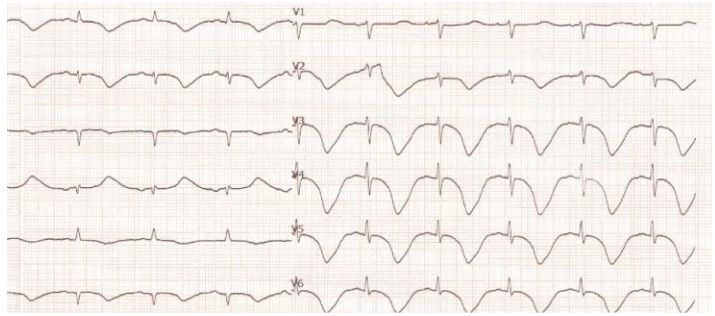
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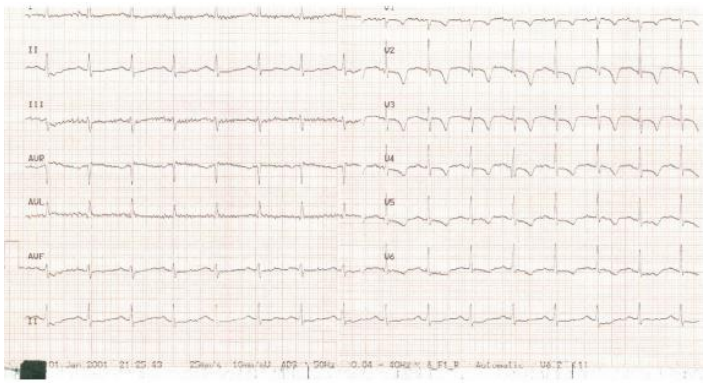
A 72-year-old man visited the emergency department complaining of typical chest pain. On 12-lead ECG, normal sinus rhythm, normal axis, normal QT duration and non-specific ST-T changes were observed. Echocardiography showed normal LV size, mild LV systolic dysfunction, normal RV size and function, no valvular heart disease and dilated ascending aorta (42 mm). Coronary angiography revealed severe stenosis at the proximal segment of LAD and OM1 arteries, as well as moderate stenosis at the proximal segment of RCA. The patient was scheduled for CABG and after cardiac surgery consultation, the patient preferred PCI over this procedure. Therefore, PCI was performed using two Everolimus-eluting stents (Xience) targeting the LAD and OM1 arteries with a loading dose of 180 mg of Ticagrelor, which was administered immediately before the procedure. Around 36 hours post-PCI, a 12-lead ECG showed a markedly prolonged QT interval and inverted T waves. Considering that raising the suspicion that Ticagrelor might be a culprit. Consequently, the aforementioned drug was substituted with Clopidogrel. Serial ECGs showed that the QTc interval declined, and in 48-h ECG Holter monitoring no significant dysrhythmia was observed.

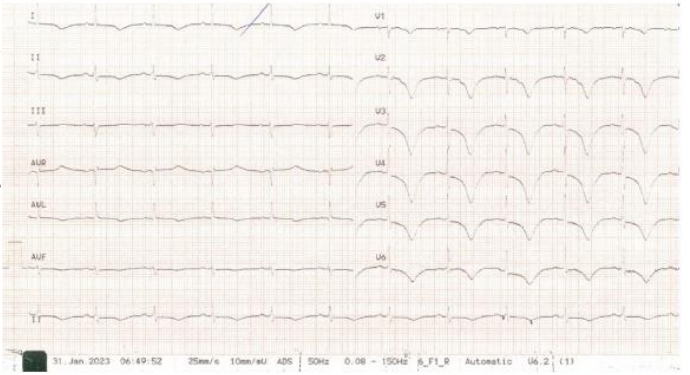






A 64-year-old woman was presentedto the emergency room complaining of retrosternal chest pain starting a few hours ago. She suffered from HTN. ECG showed NSR, NAX, normal QTc and inverted T waves in all precordial leads and TTE demonstrated normal LV size and mild systolic dysfunction, as well as regional wall motion in the apicoseptal and anteroseptal parts of the LV. The size and function of the RV were normal, and no significant VHD or other notable pathologies were detected, the patient was a candidate for CAG. Regarding significant LAD ostium stenosis, a single-vessel disease was suspected. PCI was performed utilizing an Everolimus-eluting Xience stent, preceded by a 180 mg loading dose of Ticagrelor. After PCI, TIMI 3 flow and successful blood flow distal to the stent were achieved, and the patient was transferred to CCU. During the course of heart monitoring, it was observed that the QTc interval exhibited a gradual prolongation, and there was no evidence for electrolyte disorders and history of other medications, the electrophysiologist suggested that the most probable cause could be ticagrelor, so the administration of this drug was stopped, and Clopidogrel was started as replacement. On the next day, QTc started to decline. The patient was discharged one week later with normal QTc. At the one-month outpatient follow-up, ECG showed a normal QTc interval.







A 70-year-old man with no cardiovascular risk factors complaining of chest pain for the past few months referred to cardiology clinic. 12-lead ECG showed NSR, NAX, and the LBBB pattern with a mildly prolonged QTc interval and no ischemic change. TTE showed mild LV enlargement and moderate systolic dysfunction with global dyskinesia, normal RV size and function, and no significant VHD. Coronary CTA revealed severe stenosis at mid LAD, the patient was a candidate for CAG, which verified mid-part LAD artery stenosis. PCI was conducted using an Everolimus-eluting stent post and the administration of a 180 mg Ticagrelor loading dose. ECG on the day following PCI showed an increased QTc interval, peaking at 750 ms two days post-procedure. There disclosed no electrolyte disorders, and medication history was unremarkable except for Ticagrelor. Consequently, Ticagrelor was ceased and replaced with Clopidogrel. From the evening of the same day, QTc interval gradually decreased and returned to the initial level within a week.

