VIA MEDICA

Obrazy w onkologii / Pictures in oncology

Biuletyn Polskiego
Towarzystwa Onkologicznego
NOWOTWORY
2022, tom 7, nr 4, 296

ISSN 2543–5248, e-ISSN: 2543–8077
www.nowotwory.edu.pl

QTc prolongations as a result of drug interactions of CD4/6 inhibitors

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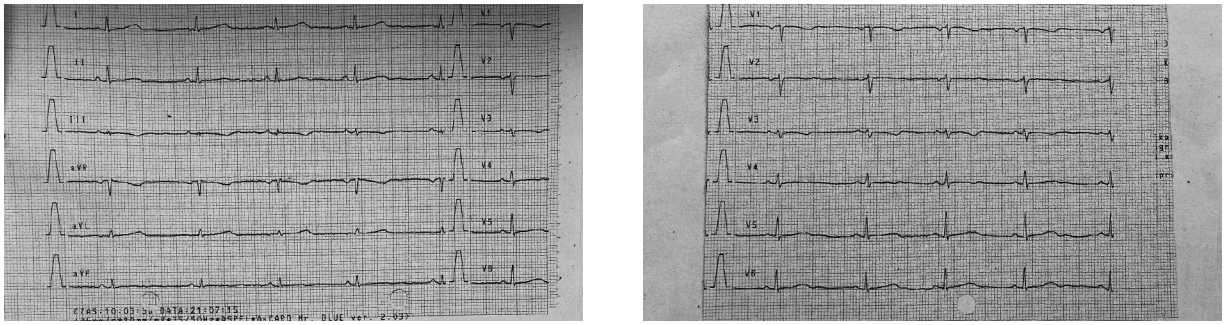

Figure 1. EKG (15.07.21): sinus bradycardia 54/min. Intermed. heart axis. The interval P-R: 130 ms, QTc – 520 ms, flat T in V2, shallow negative T in V3, flat T in V4

A 45-year-old woman was diagnosed with metastatic breast cancer with dissemination to the bones and mediastinal lymph nodes of the breast. Taking into account the biological type (luminal B, *HER2*-negative) and the low dynamics of the disease, the best therapeutic option was to use hormone therapy in combination selective oestrogen receptor downregulator – fulvestrant with the cyclin-dependent kinase 4/6 (CDK 4/6) inhibitor. The therapy was initiated in July 2021. The pre-treatment electrocardiogram (ECG) was normal. On day 15 the control ECG showed heart rate 54/min and QTc – 520 ms. During therapy, mycoses of the esophagus were diagnosed and fluconazole 50 mg tabletes QD were ordered. Due to persisting dysphagia, antifungal agents were continued for the next 10 days, together only with hormonal therapy. A control ECG 3 weeks later was normal and the CDK 4/6 therapy was restarted. Conclusion: protein kinase inhibitors used in molecularly-targeted oncology drugs are cardiotoxic and can cause various disorders of the cardiovascular system. This group of agents includes CDK 4/6 inhibitors that occasionally prolong the QTc interval [1]. Cyclin-dependent kinase 4/6 inhibitors are metabolized by CYP3A enzymes and inhibit CYP3A themselves. Co-administration with a strong CYP3A inhibitor increases cardiotoxicity of CDK 4/6 inhibitors and should be avoided [2].

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Jak cytować / How to cite:

Grela-Wojewoda A, Puskulluoglu M, Lompart J, Ziobro M, Konduracka E. ***QTc prolongations as a result of drug interactions of CD4/6 inhibitors***. *NOWOTWORY J Oncol* 2022; 72: 258.