Control Number: 25

Abstract Category: Clinical Case Challenge in Cardio-Oncology

Title: 5-Fluorouracil Re-Challenge After Cardiotoxicity

ABSTRACT BODY

Background and Purpose

5-Fluorouracil (5-FU) re-challenge following cardiotoxicity is a topic without consensus. Existing literature reveals both cases of recurrent cardiac complications as well as cases of successful re-challenge. Whether a patient who experienced cardiotoxicity from 5-FU can safely receive this drug again is a commonly encountered clinical dilemma that requires further investigation. Here, we report a difficult case involving 5-FU re-challenge.

Case Description and Outcomes

A 66-year-old Caucasian man with a history of atrial fibrillation and venous thromboembolism on Xarelto, hypertension, peripheral vascular disease, and heart failure with preserved ejection fraction was diagnosed with stage III colorectal adenocarcinoma. He underwent subtotal colectomy and end-ileostomy and was treated with the FOLFOX regimen in the adjuvant setting. During the infusion, he sustained a sudden collapse secondary to ventricular fibrillation which was successfully terminated by cardioversion. ECG immediately after the cardiac arrest revealed ST-segment elevation in the inferior leads with lateral ST depressions. Emergent cardiac catheterization did not reveal evidence of obstructive atherosclerotic coronary artery disease. Echocardiogram demonstrated preserved EF with no significant wall motion abnormalities or valvular heart disease. Following this event, the decision was made to hold 5-FU. He received an implantable cardioverter-defibrillator. At a 3-month follow-up, the CT scan revealed extensive metastatic disease. Oncology felt that 5-FU would be the most efficacious treatment to slow disease progression. After extensive multidisciplinary discussion, the decision was made to proceed with palliative chemotherapy using 5-FU/leucovorin in the inpatient setting while on continuous telemetry. He was premedicated with isosorbide mononitrate, metoprolol succinate, and diltiazem. He tolerated chemotherapy well without complication.

Discussion

We report a patient who developed cardiac arrest presumably due to fluorouracil-induced coronary vasospasm. When further doses of 5-FU are required, the literature is mixed regarding the safety of 5-FU re-administration. In all cases, clinicians should proceed cautiously and only after extensive multidisciplinary discussions on the risks/benefits of re-challenge. If the drug is being re-administered, adequate pre-treatment with “anti-spasm” therapy, which includes calcium channel blockers (nifedipine and diltiazem) and long-acting nitrates (isosorbide dinitrate), is important in conjunction with telemetry monitoring. Additional strategies for safe re-challenge include dose reduction and switching from infusion to bolus regimen.

References

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