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Abstract Category: Clinical Science in Cardio-Oncology

Title: 5-Fluorouracil Cardiac Toxicity: Insights from a Community-Based Cardio-Oncology Cohort

ABSTRACT BODY

Background

5-Fluorouracil (5FU)-based chemotherapy plays an important role in multiple malignancies. Several observed cardiac adverse effects of 5FU include angina and coronary vasospasm. We report our experience with 5FU-induced angina and coronary vasospasm at our community-based cardio-oncology practice.

Methods

Records of patients seen by the Franciscan Health, Indianapolis, cardio-oncology service for the management of 5FU-induced angina and coronary vasospasm between 01/2017 and 12/2019 were reviewed. Data describing the presentation, work-up, management, and ability to tolerate future 5FU-based chemotherapy was collected.

Results

Fifteen out of a total of 437 patients (3.4%) who received 5FU either alone or in combination with other agents experienced angina or coronary vasospasm. Median time to onset of symptoms was during cycle one and ranged from cycle 1 to 4. Ten patients presented to the emergency department (ED) while 5 described angina during an office visit. ED visits resulted in 3 acute ST-elevation myocardial infarctions, two of which had no coronary disease and one of which had a 50% coronary lesion treated medically. Two of the three patients did not have their 5FU continuous-infusion pumps discontinued until after their cardiac catheterization was complete. In total, 10 patients were re-challenged with 5FU, of which 9 have either completed therapy or are continuing therapy without further cardiac event. One patient (1/10) was presumed to have had recurrent vasospasm as he suffered a witnessed and resuscitated cardiac arrest. Of the 10 patients who were re-challenged, 4 were treated with a calcium channel blocker, 1 with a nitrate, and 5 with both a calcium channel blocker and nitrate medication.

Conclusion

Optimal management of 5FU-induced angina and coronary vasospasm remains challenging. Practitioners, including those within the ED, must be aware of this adverse effect as the mainstay of emergent treatment involves discontinuation of the infusion. 5FU re-challenge can be cautiously considered with concomitant calcium channel blockers and nitrates but further study is required.

Clinical Implications

Despite a dedicated cardio-oncology program with ongoing education, 5FU angina and coronary vasospasm remains poorly recognized by the health care team which should prompt further efforts to raise awareness of this dangerous chemotherapy complication.