



New Management for a Case of Severe Coronary Spasm Associated with Fluorouracil Chemotherapy

Zahra Golkar¹, Ali Akhavan^{2*}, Masood Shekarchizadeh²

¹Student Research Committee, Isfahan University of Medical Sciences, Isfahan, Iran

²Isfahan Cardiovascular Research Center, Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran

OPEN ACCESS

*Corresponding Author:

Isfahan Cardiovascular Research Center, Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran

ABSTRACT

Introduction: Chemotherapy-induced coronary vasospasm is a rare yet severe complication that can hinder cancer treatment. Fluoropyrimidines, such as capecitabine and fluorouracil (5-FU), are commonly used for solid tumors like colorectal cancer and are the second most common chemotherapy agents linked to cardiac toxicity, including coronary vasospasm, with incidence rates up to 13%. The standard treatment involves discontinuing the fluoropyrimidine and administering nitrates and calcium channel blockers. However, continuing fluoropyrimidines might be necessary for treating cancer. Midazolam has been used to reduce spasms during coronary interventions but has not been reported for 5-FU-induced vasospasm until now.

Case Presentation: This case report describes a 71-year-old male with metastatic colorectal cancer who experienced recurrent coronary vasospasm during chemotherapy. Initially treated with FOLFOX, the patient had vasospasms managed with diltiazem and midazolam. Upon disease progression and increased carcinoembryonic antigen levels, treatment switched to FOLFIRI with cetuximab, followed by other regimens. Throughout these treatments, the patient continued to experience and manage chemotherapy-induced coronary vasospasm with diltiazem and midazolam. Despite these treatments, the patient's condition worsened, and he eventually succumbed to the disease.

Results: This case underscores the difficulty in balancing effective chemotherapy with managing severe side effects like coronary vasospasm. The cardiotoxicity mechanisms of 5-FU remain unclear, highlighting the need for further research. This report demonstrates the potential effectiveness of midazolam, suggesting a new approach for managing similar cases. Continuous monitoring and targeted strategies for cardiotoxicity prevention and management are essential.

Citation:

Golkar Z, Akhavan A, Shekarchizadeh M. New Management for a Case of Severe Coronary Spasm Associated with Fluorouracil Chemotherapy. *Iranian biomedical journal* 2024; 28(7): 10.

Keywords: Colorectal neoplasms, Coronary vasospasm, Fluorouracil