A case of acute myocarditis due to 5-fluorouracil cardiotoxicity.

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Topic(s):
Acute Heart Failure - Clinical

Citation:
We present a case of a 56 years-old male, with stage III colorectal cancer (T3N2M0) undergoing chemotherapy treatment one month following surgical resection, without other medical history. The patient was receiving a cycle of chemotherapy, with intravenous oxaliplatin and 5-fluorouracil (5FU).

During treatment, the patient presented with chest pain, discomfort and perspiration. The first electrocardiogram (ECG), troponine levels and echocardiogram were normal. After a few hours, the patient developed respiratory failure due to acute pulmonary edema (image A) and cardiogenic shock, in need of orotracheal intubation and vasoactive drugs. In the sequential ECG, ST segment elevation from V2 to V5 and I-II-aVF was appreciated, indicating an infarction code.

The coronary angiography demonstrated no lesions (Image Ca-Cb). That, joined with a new moderate systolic dysfunction of the left ventricle, made us consider a myocardial infarction with non-obstructive coronary arteries as a probable diagnosis. Cardiogenic shock progress to an INTERMACS 1 situation, led us to implant a venoarterial extracorporeal membrane oxygenation (ECMO) as a bridge to a definitive treatment decision. Furthermore, the patient presented arrhythmic storm with fast ventricular tachycardia and ventricular fibrillation, requiring 27 electric shocks, amiodarone, and finally propranolol to control the rhythm. After the initial stabilization, our patient presented with severe dysfunction of the left ventricle, without the possibility of opening of the aortic valve and the presence of an apical thrombus (image B: red line indicates the endocardium, blue line indicates the thrombus surface ), requiring an increase of the dosage of inotropes.

With the suspicion of 5FU cardiotoxicity, we contacted with the oncology service, which recommended the use of uridine triacetate as an antidote. Upon administration the patient showed a gradual improvement, descending the need of vasoactive drugs and mechanical support. In a cardiac magnetic resonance image, we observed inferior-lateral-basal non-ischemic contrast pattern, which supported the diagnosis of acute myocarditis (image D).

Following 16 days of hospital admission, the patient recovered a normal left ventricular function and was discharged. Five months later, the patient continued to be stable, without any signs of heart failure and sustained normal left ventricular function.

The cardiotoxicity from chemotherapy drugs is a common complication that may appear during the treatment of different types of cancers. 5FU cardiotoxicity is a known adverse effect of this drug, however the mechanism of which this toxicity occurs is not clear. Uridine triacetate has been considered an effective antidote for the most severe cases of toxicity.
Abstract: P1228

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