Treating the treatment- Chemotherapy Induced multi-organ Toxicity

S. Tyebally[1], L Millar[1], K Savvatis[1], S Slater[1], S Gnanapavan[1], C Manisty[1.2], M Westwood[1], T Crake[1], AK Ghosh[1]

[1]Barts Health NHS Trust, Cardiology, London, United Kingdom
[2] Institute of Cardiovascular Science, University College London

Background

Adjuvant chemotherapy consisting of capecitabine and oxalipatin in colorectal cancer decreases the incidence of disease recurrence. Whilst improving disease-free survival in patients, this chemotherapy regime has rare but significant complications. In this article we report on a previously fit and healthy patient who developed both common and uncommon side effects from this chemotherapy regime.

Case

A 40-year-old gentleman presented to his local hospital with a two-day history of dyspnoea having been started on adjuvant chemotherapy five days prior (250mg of Oxaliplatin as an infusion and a cumulative oral dose of 20g of Capecitabine) for colorectal cancer.

His electrocardiogram (ECG) on presentation is depicted in figure 1. He developed central chest tightness within several hours of arriving in hospital and a repeat ECG is depicted in figure 2. His troponin was elevated.

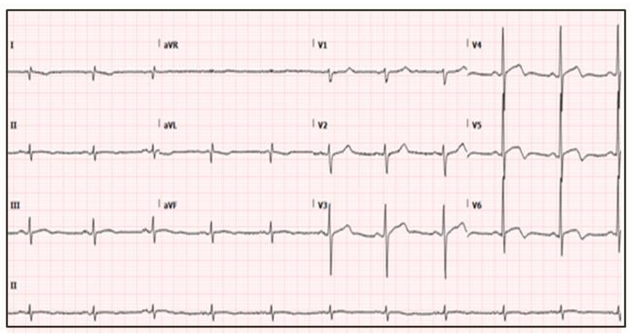

Figure 1

Figure 2

He also developed intermittent dysarthria and dysphasia, with a sensation of feeling disoriented. A magnetic resonance image (MRI) scan of his head showed diffused subcortical and callosal white matter signal change and restricted diffusion consistent with a toxic leukoencephalopathy (figure 4).

A CT pulmonary angiogram (CTPA) was performed as he remained hypotensive which showed bilateral pulmonary emboli.

Over the next few days, he improved haemodynamically and small doses of bisoprolol and ramipril were introduced. He went on to have a cardiac MRI which showed mild LV systolic impairment (LVEF 53%). There was no abnormal late gadolinium enhancement and T1 and T2 values were in the normal range. No stress perfusion defects were seen.

On discharge, TTE demonstrated an LVEF of 56% and a GLS of -21.4% (figure 3b). Follow up was arranged in the thrombosis, neurology and cardio-oncology clinics.

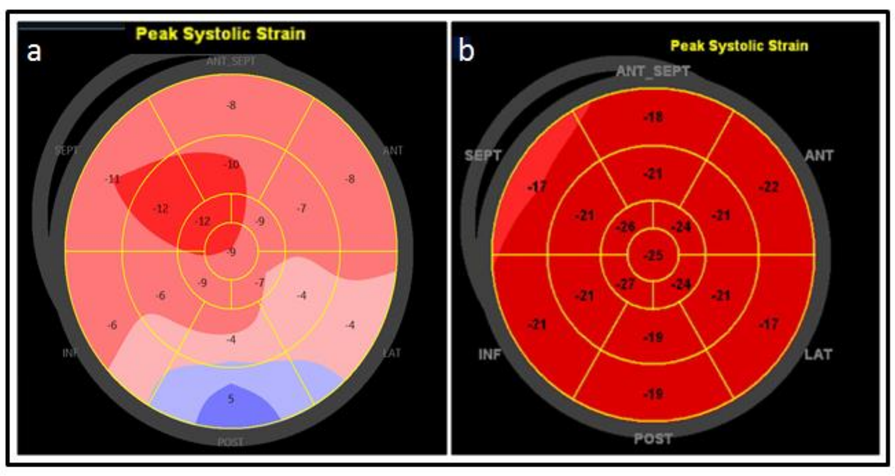

Figure 3

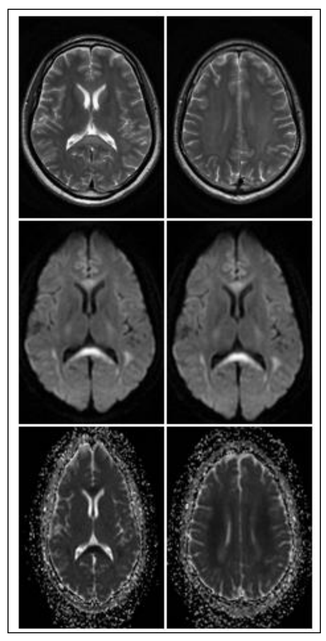

Figure 4

Discussion

The key to the successful use of chemotherapy agents is dependent on the clinician's awareness of the potential toxicity profile, and the prompt recognition and management of side effects. This requires close co-operation between medical professionals (e.g. oncologists, cardiologists, neuroradiologists and thrombosis specialists working together in a multidisciplinary Cardio-Oncology setting) and education of all doctors who see cancer patients treated with this common chemotherapy regime.

Disclosures: All authors have no disclosures