

Assessment of the pattern and value of cardiac monitoring in patients receiving palliative doxorubicin for sarcoma.

Authors: P King, B Seddon, J Whelan, SJ Strauss.

Institution: The London Sarcoma Service, University College Hospital, London

Email: patricia.king@uclh.nhs.uk

Aims

The standard first line chemotherapy for patients with metastatic soft tissue sarcomas is single agent, doxorubicin 75mg/m² for 6 cycles; total cumulative dose 450mg/m². Doxorubicin is associated with a risk of cardiac toxicity occurring in approximately 4% of patients receiving a cumulative dose of $\leq 450\text{mg/m}^2$. Dexrazoxane may protect against cardiac damage secondary to doxorubicin, but is not recommended for routine use. Cardiac toxicity is a concern in the curative setting and patients are intensively monitored. The practice at UCH when treating with curative intent is to ensure adequate left ventricular ejection fraction (LVEF) at baseline (>50% with normal function) using echocardiography or MUGA. LVEF is monitored during treatment prior to cycle 4, as well as cycle 6. However monitoring in the palliative setting is at clinician's discretion. The aim of the audit was to assess current practice, incidence of cardiac toxicity in patients according to age, dose of treatment, previous risk factors and how monitoring affected management.

Methods

Retrospective analysis of patients with metastatic sarcoma treated with palliative doxorubicin at University College Hospital between January 2003 and August 2008. Data were collected from electronic records and patient letters.

Fifty-six patients were selected randomly from pharmacy records. They had a median age of 59 years (range 19-79). Seven (12.5%) patients had cardiac risks factors. Twenty-two patients received 6 cycles of doxorubicin (39%), 9 received between 3 and 5 cycles (16%) and 25 received less than 3 cycles (45%). The median number of cycles was 4 (range 1-6), with a cumulative dose of 300 mg/ m². Patients had a total of 77 MUGAs/echos that were recorded in the notes. Forty-four had baseline echos, 21 after 3 cycles and 12 after 5 cycles. The median ejection fractions were 61%, 57.6% and 57.5% respectively.

Eight patients (14%) had a dose reduction during treatment due to toxicity, but none due to a fall in LVEF. Management was changed in 3 patients (5%) on the basis of cardiac monitoring. Two were commenced on dexrazoxane as a result of a fall in LVEF of 10-20% prior to cycle 4. In both LVEF returned to baseline prior to cycle 6. They died 4 and 6 months later of metastatic disease. One patient had the final dose of doxorubicin omitted after 5 cycles, (cumulative dose 375mg/m²) due to a fall in LVEF from 64% to 43%. One month later his LVEF was 25% on echo although he was asymptomatic, and he died 6 months later of metastatic disease. These three patients did not have cardiac risk factors. No patients developed symptoms thought to be attributable to cardiac failure on treatment or on follow-up. Age, cumulative doses of doxorubicin (under 450mg/m²) and prior cardiac risk factors did not predict for toxicity.

Conclusions

Cardiac monitoring in palliative patients appears to have been influenced by those receiving curative treatment. This audit suggests that monitoring changes management for small numbers of patients in this poor prognostic group. Numbers are too small to determine whether patients with additional risk factors may require more regular monitoring.