AUDIT TO ASSESS THE PATTERN AND VALUE OF CARDIAC MONITORING IN SARCOMA PATIENTS RECEIVING PALLIATIVE DOXORUBICIN

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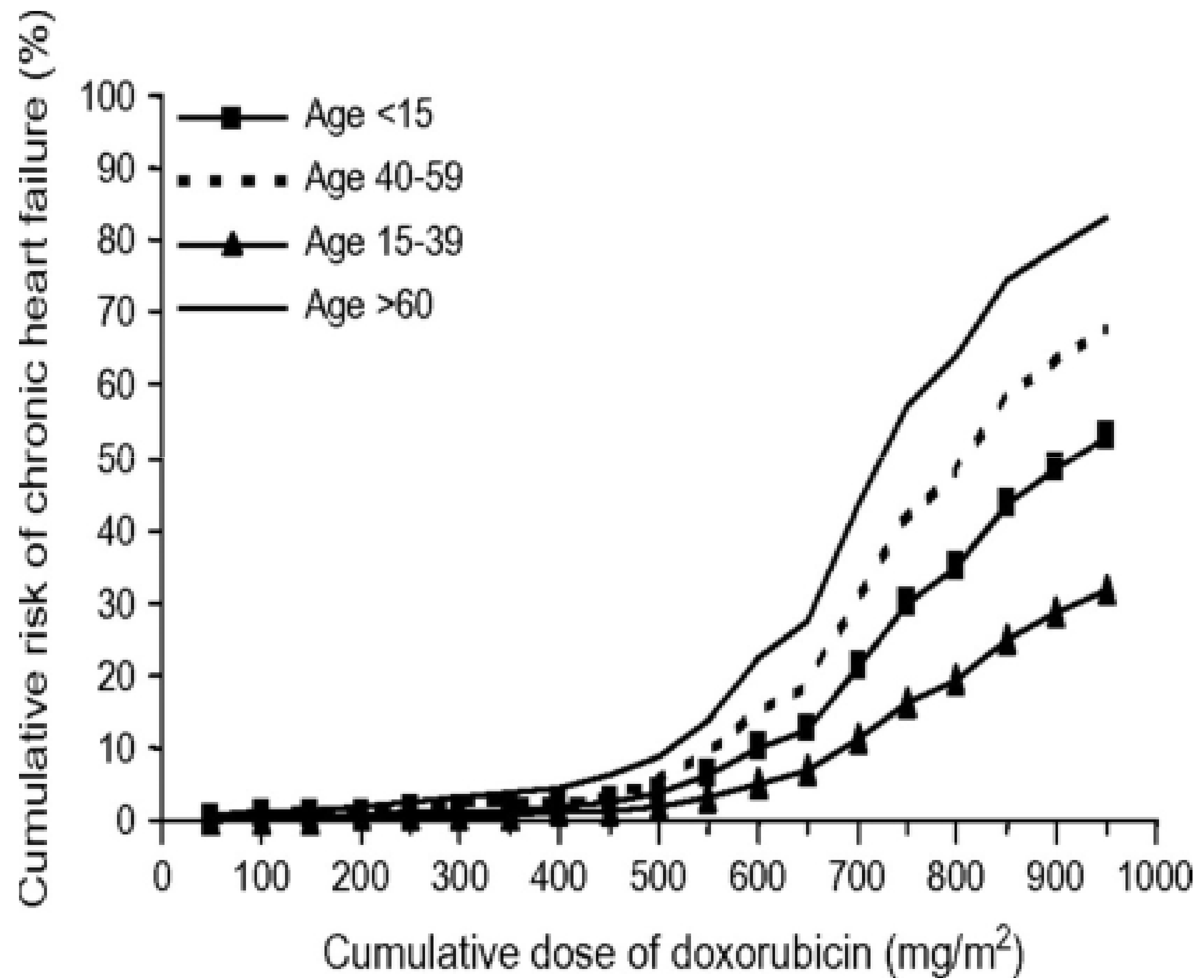
Doxorubicin

- 1st line treatment for metastatic soft tissue sarcoma.
- $75 mg/m^2$ for 6 cycles, total dose $450 mg/m^{2.}$
- Cardiac toxicity affects ≈ 4% of patients receiving a cumulative dose of $\leq 450 mg/m^2$.
- Dexrazoxanes have a protective effect.

Cumulative probability of developing doxorubicin-induced chronic heart failure



Von Hoff DD, Layard MW, Basa P et al. Risk factors for doxorubicin-induced congestive heart failure. Ann Intern Med 1979; 91: 710–717.

Cardiac monitoring

CURATIVE

- **Baseline LVEF**
- **LVEF prior to cycle 4 and cycle 6**
- **If >10% reduction in LVEF: consider dexrazoxane or stop therapy**
- **If LVEF falls below 50% : stop therapy**

If on study, follow protocol.

PALLIATIVE

- **Monitoring on treatment is at the clinician’s discretion.**

Aims

- Assess current monitoring practice.
- Assess incidence of cardiac toxicity according to age, dose of treatment and cardiac risk factors.
- Assess how monitoring affected management.

Methods

- **Retrospective analysis.**

- **56 randomly selected patients receiving palliative doxorubicin between 2003-2008.**

Data collection

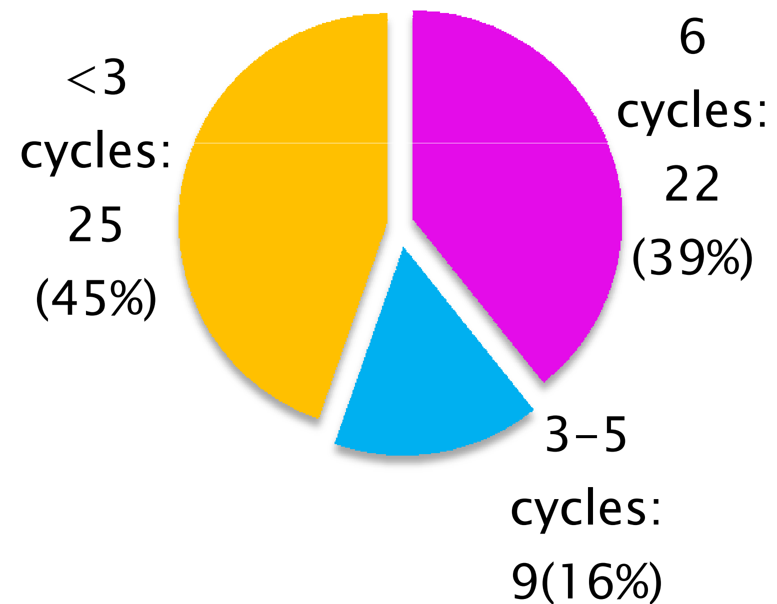
- Demographic: age, sex, diagnosis, previous treatment
- Cardiac risk factors
- Date commenced treatment
- Total number of cycles received and doses
- MUGA/Echos
- Changes in LVEF
- Changes in management and reasons
- Cardiac toxicity documented in clinic letters
- Date of death

Results

Patients	Number
Total	56
Median age (yrs)	59 (range 19-79)
1st line therapy for metastatic disease	38
2nd line therapy for metastatic disease	18
Cardiac risk factors	7
Hypertension	1
High cholesterol	2
Angina	1
Mitral valve replacement	1
Diabetes	2
Atrial Fibrillation	1

Results

Patients received a median of 4 cycles (range 1-6) with a cumulative dose of doxorubicin of 300mg/m2



Cardiac monitoring

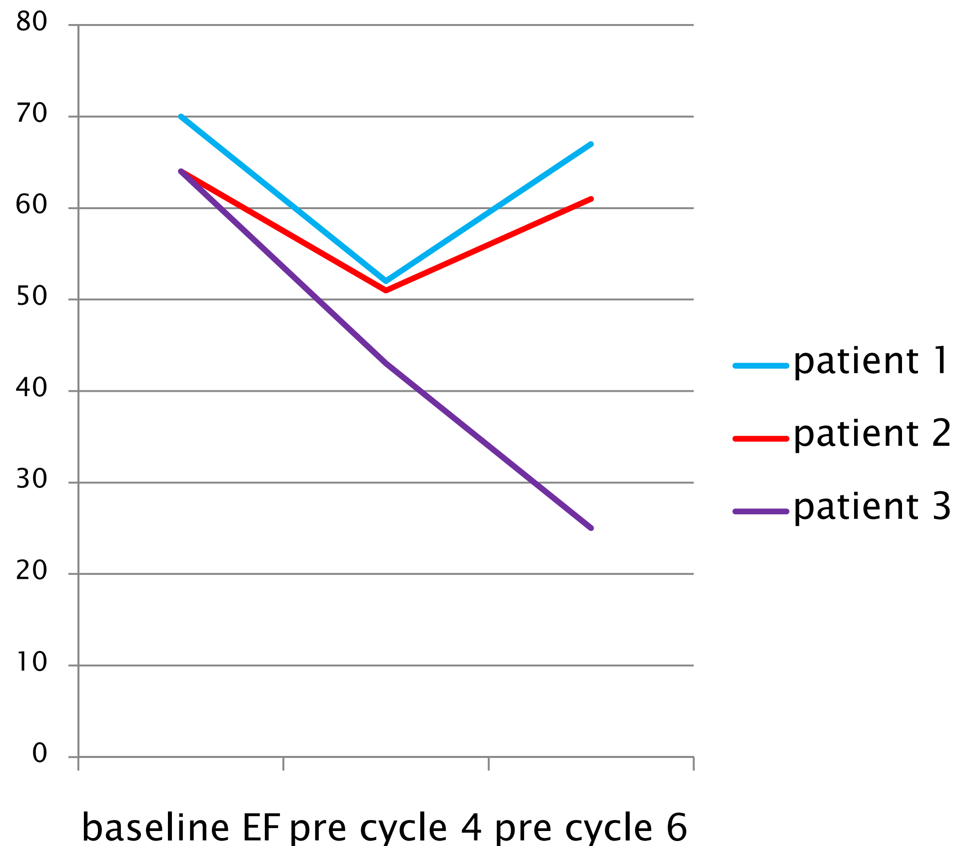
	baseline	Pre 4	Pre 6	Totals
No. Echo/MUGA **No. patients (%)**	44 / 56 (79)	21 / 31 (68)	12 / 22 (55)	77 / 109 (71)
Median LVEF (%)	61.0	57.6	57.5	-

Treatment modifications

- **8 patients (14%) had a dose reduction during treatment due to toxicity, none due to cardiac toxicity.**
- **32 patients (57%) terminated therapy due to progressive disease.**

- **3 patients (5%) had a change in management due to a significant fall in LVEF.**

Changes in LVEF and management in 3 patients



- **Patients 1&2:**
- **72yrs, 66yrs.**
- **No cardiac risk factors.**
- **Dexrazoxane commenced due to fall in LVEF of 10-20% prior to cycle 4.**
- **LVEF returned to baseline prior to cycle 6.**
- **Died 4 and 6 months later from progressive disease.**

- **Patient 3:**
- **39yrs.**
- **No cardiac risk factors.**
- **Final dose of doxorubicin omitted after 5 cycles, due to a fall in LVEF from 64% to 43%.**
- **1 month later his LVEF was 25% on echo. Died 6 months later.**

Follow up

- No other patients developed symptoms thought to be attributable to cardiac failure on treatment or on follow-up.

- With a median follow up of 12 months (range 1 month to 6 years), 8 patients (14%) were alive.

Cardiac monitoring in palliative patients appears to have been influenced by those receiving curative treatment.

Monitoring changes management for small numbers in this poor prognostic group.

Numbers are too small to determine whether patients with additional risk factors may require more regular monitoring.

Proposed Change to Practice

- Baseline echo
- No routine monitoring on treatment

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