Flinders UNIVERSITY

'Abstract and presentation at the American Heart Association's Epidemiology and Prevention/Lifestyle and Cardiometabolic Health 2016 Scientific Sessions, Phoenix, USA, 1-4 March 2016

which has been published in final form at
http://circ.ahajournals.org/content/133/Suppl_1

Abstract and presentation at the *American Heart Association's Epidemiology and Prevention/Lifestyle and Cardiometabolic Health 2016 Scientific Sessions*, Phoenix, USA, 1-4 March 2016.

Title

Heart Failure Following Cancer Therapy in Patients with Hematological Malignancies Aged 18 Years and Under: A Linked Health Data Analysis (1996-2009)

Authors

Narelle M Berry[1];

Shahid Ullah[2];

Vincent L Versace[3];

Alexandra L McCarthy[4];

John J Atherton[5];

David Roder[6];

Bogda Koczwara[7];

Douglas Coghlan[8];

Munir H Chowdhury[1];

Robyn A Clark[1]

Affiliation

[1] School of Nursing and Midwifery, Flinders University, Adelaide, Australia

[2] Flinders Centre for Epidemiology & Biostatistics, Flinders University, Adelaide, Australia

[3] Greater Green Triangle University Department of Rural Health, Flinders University and Deakin University, Warrnambool, Australia

[4] School of Nursing, Queensland University of Technology, Brisbane, Australia

[5] University of Queensland, Brisbane, Australia

[6] Cancer Epidemiology and Population Health Unit, University of South Australia, Adelaide, Australia

[7] Medical Oncology Units, Flinders Medical Centre, Adelaide, Australia

[8] Molecular Medicine and Pathology, Haematology, Flinders University, Adelaide, Australia

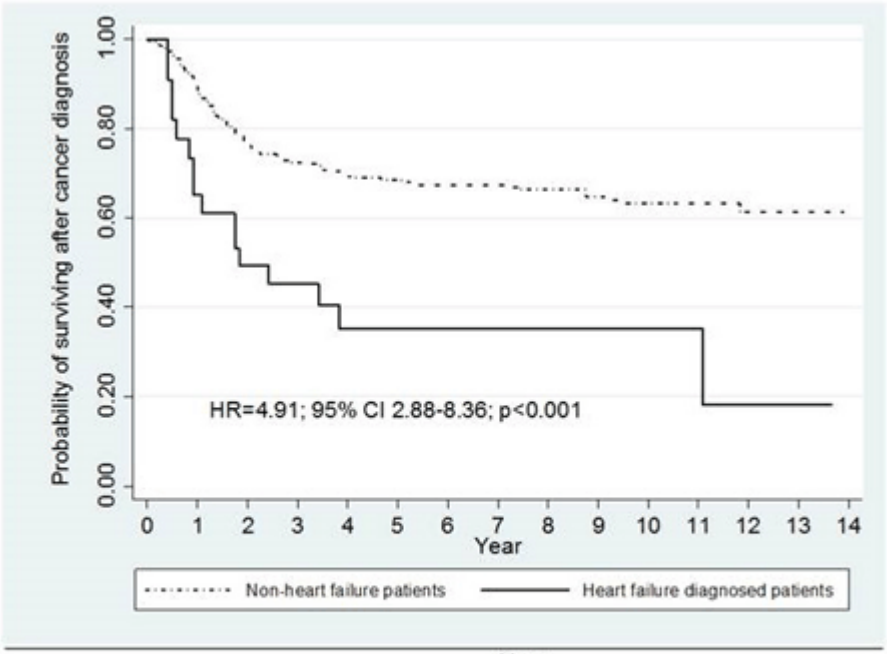
Abstract

Introduction: The causal link between chemotherapy treatments and subsequent cardiotoxicity is well established, particularly for children with hematological malignancies. Little information exists on the characteristics and outcomes for patients with heart failure (HF) after chemotherapy. This study aimed to describe the characteristics, survival and mortality of patients who received chemotherapy for hematological cancer (leukemias, lymphomas and related disorders) before 18 years old and subsequently developed HF compared to those who did not.

Methods: Linked health data (1996-2009) from the Queensland Cancer Registry, Death Registry and Hospital Administration records for HF and chemotherapy admissions were reviewed. From all breast and hematological cancers patients (n=73,158), 15,987 received chemotherapy, including 819 patients aged ≤18 years at time of cancer diagnosis. Patients were categorized as those with an index HF admission (occurred after cancer diagnosis) and those without an index HF admission (non HF).

Results: Of the 819 patients, 3.7% (n=30) had an index HF admission. Median age of HF patients at time of cancer diagnosis was 5 years (IQR 3-12) compared to 7 years (IQR 3-14) in the non HF group (p=0.503). Median follow up from cancer diagnosis was 2.5 years in the HF group compared to 5.42 years in the non HF group (p<0.01). Of those who developed HF, 70% (n=21) had the index admission within 12 months of their cancer diagnosis. Of those with HF, 53.3% (n=16) died (all cause) compared to 14.6% (n=115) with no HF. On adjustment for age, sex and chemotherapy admissions, HF patients had an almost 5 fold increased mortality risk compared to non HF patients (HR 4.91 [95% CI, 2.88-8.36]) (Figure 1).

Conclusions: This study demonstrated that in children with hematological cancers the onset of HF occurred soon after chemotherapy and mortality risk is almost 5 times that of children who do not develop HF. Innovative strategies are still needed for the prevention and management of cardiotoxicity in this population.



	Year													
	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Numbers at risk														
Non-HF	789	695	593	532	474	425	372	318	263	215	164	123	75	38
HF	30	22	17	13	10	9	8	6	5	3	3	3	2	1