

Mortality within 30 days following systemic anti-cancer therapy (SACT) a review of all cases over a 4 year period in a tertiary cancer centre

Chow S^{*1}, Khoja L^{*1}, McGurk A¹, O'Hara C¹, Hasan J¹ ¹The Christie NHS Foundation Trust, Manchester. (*Joint authorship)

Introduction

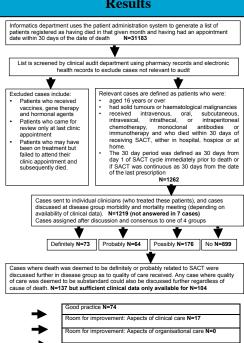
Mortality post SACT is an indicator of the quality of care in cancer patients. In the UK, mortality within 30 days of SACT is used as an outcome measure to assess the quality of care given to cancer patients (1).

Monthly morbidity and mortality audits conducted to recommendations in the NCEPOD commenced at the Christie NHS Foundation Trust since 2009. We sought to evaluate outcomes of patients who died within 30 days of SACT over the period 2009-2013, seeking to assess the audit process and benefit thereof in improving mortality.

Methods

We collated audit findings over the 4 year period 2009-2013 to determine the number of treatmentrelated deaths, clinical characteristics of patients, causes of death and quality of care received. We examined the impact of audit in reducing 30 day mortality over the 4 years and assessed factors by logistical regression analysis that may be associated with increased risk of SACT-related death

Results



	Good practice N=74
	Room for improvement: Aspects of clinical care N=17
	Room for improvement: Aspects of organisational care N=0
+ +	Room for improvement: Aspects of both clinical care and organisational care N=5
-	Less than satisfactory N=8
→	Insufficient information available to decide N=33 (n=19 insufficient data, n= 14 no notes available concerning admission post SACT)

A total of 31,183 patients were treated 2009-2013. Of these, 4% (n=1262) died within 30 days of SACT (figure 1&2). Overall, 97% of these cases had proformas submitted and could be analysed in this study. The 3% of cases not examined had insufficient data available and died at a hospital or cancer unit other than the Christie. Repeated request for information were made to no effect. Of the 1262 patients that died within 30 days of SACT, death was determined to be treatment-related in 137 patients or 11% (6% definitely and 5% probably) and possibly or not treatment-related in 88%. 1% of cases did not have a response regarding cause of death.

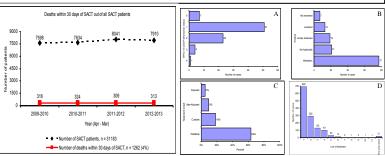


Figure 2. The number of patients treated per year is above the number of these patients year on year who died within 30 days of SACT.

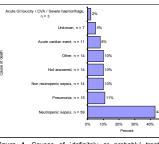


Figure 4. Causes of `definitely or probably' treatment related death within 30 days of SACT.

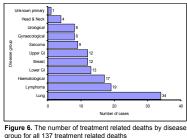


Figure 3. Characteristics of patients who died within 30 days of SACT, according to A. Performance status B. Stage of disease C Intent of treatment and D. Line of treatment given prior to death.

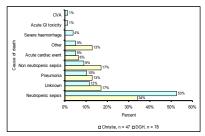


Figure 5. Causes of `definitely or probably' treatment related death within 30 days of SACT according to admitting hospital; the Christie Cancer centre or a District General Hospital

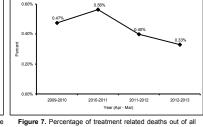


Figure 7. Percentage of treatment related deaths out of all chemotherapy patients for each year 2009-2013

The SACT mortality within 30 days averaged 4 % in our centre over the 4 years and there was a steady fall of treatment-related death since 2011. Regression analysis for factors associated with mortality post SACT included performance status ≥2, presence of co-morbidities, treatment type and treatment setting.

Conclusions

We demonstrated that treatment related mortality within 30 days of SACT is <1% in our centre. Greater awareness amongst clinicians and better patient selection may have contributed to the observed trend in mortality reduction over 4 years. More research is needed to identify predictive factors for outcomes in patients receiving SACT.

Figure 1. Flow chart showing the methodology used to assess 30 day mortality post SACT, cess is repeated monthly, numbers are given for the 4 year period of this study).

References: 1. Mort et al. For better, for worse? A review of the care of patients who died within 30 days of receiving systemic anti-cancer therapy. National confidential enquiry into patient outcome and death, Department of Health United Kingdom, 2008