Introduction

Multiple international guidelines suggest that pre-treatment cardiac markers should be taken prior to each cycle of treatment to support the early diagnosis and treatment of immune checkpoint inhibitor (ICI) induced myocarditis. As a large regional tertiary cancer centre with an established cardio-oncology service early adoption of baseline and subsequent cardiac surveillance has been implemented and its utility evaluated.

Methods

A retrospective analysis of patients whom had undergone baseline cardiac assessment prior to receiving ICI treatment at the Clatterbridge Cancer Centre between October 2022 and March 2023 was performed. Within the regional protocol all patients with abnormal cardiac markers (Pro-BNP >400 ng/L and or a high sensitivity troponin T (TropT) >14 ng/L) were subsequently monitored with pre-cycle cardiac biochemical monitoring for the first 3 cycles of ICI treatment.

Results

• In total 400 patients who commenced ICI treatment underwent baseline cardiac screening
• 42.2% (n=169) had abnormal biomarkers and underwent pre-cycle monitoring (Figure 1)
• The incidence of ICI induced myocarditis was 3.3% (n=13) with 12 confirmed on cardiac MRI (cMRI) and 1 clinically diagnosed due to clinical instability.

Conclusion:

Baseline cardiac assessment is useful, as the majority of patients that go on to develop ICI myocarditis have abnormal baseline values. However, the clinical utility of pre-cycle screening has not demonstrated enhanced or earlier detection of myocarditis compared to clinical assessment and represents an area of potential cost saving. Patients are either presenting mid-cycle or are identified via symptomatic review therefore investment is better placed in education and training to optimize clinical recognition and timely management.

References

1. Lyon A, López-Fernández T, Couch LS et al, ESC Scientific Document Group, 2022 ESC Guidelines on cardio-oncology developed in collaboration with the European Hematology Association (EHA), the European Society for Therapeutic Radiology and Oncology (ESTRO) and the International Cardio-Oncology Society (IC-OS): Developed by the task force on cardio-oncology of the European Society of Cardiology (ESC), European Heart Journal, Volume 43, Issue 41, 1 November 2022, Pages 4229–4361, https://doi.org/10.1093/eurheartj/ehac244