Cardio-Oncology: Addressing Unmet Needs at ESC Cardio Oncology 2026

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The intersection of cancer therapy and cardiovascular disease presents a complex clinical dilemma, as advancements in oncology treatments often lead to increased cardiotoxicity. Managing cardiovascular complications in cancer patients requires a multidisciplinary approach to mitigate morbidity and mortality. The immediate takeaway is the critical need for enhanced collaboration and structured care pathways to address these evolving challenges effectively.

KEY TAKEAWAYS

- The Pivot: The recognition of cardio-oncology as a distinct subspecialty highlights the growing burden of cardiovascular complications in cancer patients.
- The Data: Cardiotoxicity, including heart failure and arrhythmias, is a leading cause of morbidity and mortality in cancer survivors, with incidence varying significantly by cancer type and treatment regimen.
- The Action: Clinicians should implement proactive cardiovascular risk assessment and monitoring strategies for all cancer patients, particularly those receiving cardiotoxic therapies.

The field of cardio-oncology addresses the cardiovascular complications arising from cancer and its treatments. As cancer survival rates improve due to more effective therapies, the long-term cardiovascular health of these patients has become a pressing concern. Many antineoplastic agents, including anthracyclines, HER2-targeted therapies, tyrosine kinase inhibitors, and immune checkpoint inhibitors, are associated with various forms of cardiotoxicity.1 This can manifest as left ventricular dysfunction, heart failure, hypertension, arrhythmias, myocardial ischaemia, and thromboembolic events.2 The prevalence of pre-existing cardiovascular risk factors in the cancer patient population further complicates management, often leading to worse cardiovascular outcomes.3

The European Society of Cardiology (ESC) Cardio-Oncology 2026 meeting aims to consolidate current knowledge and foster future advancements in this rapidly evolving area. The meeting's focus on unmet needs underscores several critical gaps in current practice. These include the lack of standardized screening protocols for cardiotoxicity, insufficient integration of cardiovascular and oncological care, and a limited evidence base for managing specific cardiotoxicities in diverse patient populations.4 For instance, while anthracycline-induced cardiotoxicity is well-documented, the long-term cardiovascular effects of newer targeted therapies and immunotherapies are still being elucidated.5 The mechanisms of cardiotoxicity vary significantly among different agents. Anthracyclines, for example, are known to induce oxidative stress and topoisomerase II²inhibition in cardiomyocytes, leading to myocyte damage and apoptosis. HER2-targeted therapies, such as trastuzumab, can cause reversible myocardial dysfunction, often without direct myocyte death, through

mechanisms involving HER2 signaling pathways in the heart. Understanding these distinct mechanisms is crucial for developing targeted prevention and treatment strategies.

Advancing the Field Together

Addressing these unmet needs requires a concerted effort across multiple disciplines. One primary area of focus is the development and implementation of harmonized guidelines for cardiovascular risk assessment and monitoring in cancer patients. Current practices vary widely, leading to inconsistencies in patient care.6 The ESC guidelines on cardio-oncology provide a framework, but practical implementation remains a challenge, particularly in resource-constrained settings.7 This challenge is exacerbated by the heterogeneity of cancer types, treatment regimens, and patient demographics, which necessitate tailored approaches to risk stratification and surveillance. The guidelines emphasize baseline cardiovascular assessment, ongoing monitoring during and after cancer treatment, and prompt intervention for emerging cardiotoxicities.

Another significant unmet need is the establishment of integrated care models. Effective cardio-oncology programmes involve close collaboration between cardiologists, oncologists, primary care physicians, and other specialists. These programmes aim to optimize patient outcomes by facilitating timely diagnosis and management of cardiovascular complications while ensuring uninterrupted cancer treatment.8 Data from existing integrated clinics suggest improved patient adherence to monitoring protocols and earlier detection of cardiotoxicity, though large-scale randomized trials demonstrating superiority over fragmented care are still emerging.9 Such models are particularly beneficial for vulnerable patient populations, including the elderly, those with multiple comorbidities, and individuals receiving highly cardiotoxic regimens.

Research into novel cardioprotective strategies is also a key area. While some agents, such as beta-blockers and ACE inhibitors, have shown promise in mitigating anthracycline-induced cardiotoxicity, their routine use as primary prevention is not universally established.10 Further research is needed to identify biomarkers that can predict cardiotoxicity more accurately, allowing for personalized risk stratification and targeted interventions.11 For example, high-sensitivity troponin and natriuretic peptides are increasingly used for early detection of cardiac injury, but their precise role in guiding treatment modifications requires further validation.12 The limitations of current predictive models highlight the need for multi-omic approaches, integrating genetic, proteomic, and metabolomic data to enhance risk prediction and identify novel therapeutic targets.

Finally, there is a recognized need for enhanced education and training in cardio-oncology for both cardiologists and oncologists. Many clinicians lack specialized training in managing the complex interplay between cancer and cardiovascular disease, which can lead to suboptimal patient care.13 Educational initiatives, such as those promoted by the ESC, are vital to equip healthcare professionals with the necessary expertise to address these challenges effectively. The ESC Cardio-Oncology 2026 meeting serves as a platform to disseminate best practices, present new research, and foster collaborative networks to advance the field.

> **CLINICAL IMPLICATIONS**
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> The persistent unmet needs in cardio-oncology highlight a systemic gap in how we manage cancer patients' long-term cardiovascular health. It is not enough to celebrate improved cancer survival rates if patients then

> succumb to preventable cardiac events. The current fragmented approach, where oncologists focus solely on cancer eradication and cardiologists react to established cardiac damage, is inefficient and detrimental. We need to move beyond reactive care to proactive, integrated management. This requires a fundamental shift in clinical practice, embedding cardiovascular risk assessment and monitoring into every stage of the cancer journey, from diagnosis through survivorship.
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> For clinicians, this means embracing multidisciplinary team meetings as standard practice, not an optional extra. Oncologists must be comfortable initiating basic cardiovascular screening, and cardiologists must understand the nuances of various cancer therapies. The industry, particularly pharmaceutical companies developing novel cancer agents, bears a responsibility to include robust cardiovascular safety endpoints in their clinical trials. Furthermore, the development of specific, evidence-based guidelines for managing cardiotoxicity from newer agents, like immune checkpoint inhibitors, is lagging. Professional bodies like the ESC and ASCO must accelerate their efforts to provide clear, actionable guidance that can be implemented in diverse clinical settings.
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> Ultimately, the patient experience is paramount. Patients undergoing cancer treatment are already facing immense physical and emotional burdens. Adding the fear of serious cardiovascular complications, often without clear guidance on prevention or management, is unacceptable. Integrated cardio-oncology clinics, while resource-intensive, offer a model for comprehensive care that should become the standard. Payers and healthcare systems must recognize the long-term cost-effectiveness of preventing cardiotoxicity, rather than solely funding the treatment of advanced cardiovascular disease. Without these changes, the promise of extended cancer survival will remain shadowed by the preventable burden of cardiovascular morbidity.

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