ESC Cardiovascular Round Table

Cardiovascular Safety at the Heart of Cancer Care

ESC European Society of Cardiology

Getting risk stratification right: **the clinical perspective**

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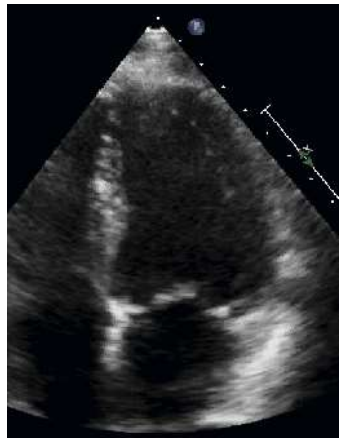
Disclosures

Speaker and advisory board fees: Philips, Myocardial Solutions, Johnson & Johnson, Astra Zeneca, Lilly, Pfizer, Accord, Nordicpharma not related with this presentation

Legacy approach: LVEF-based stratification

>50%



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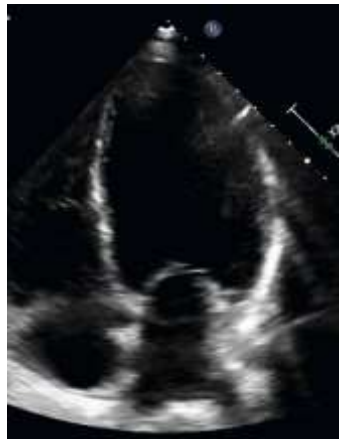
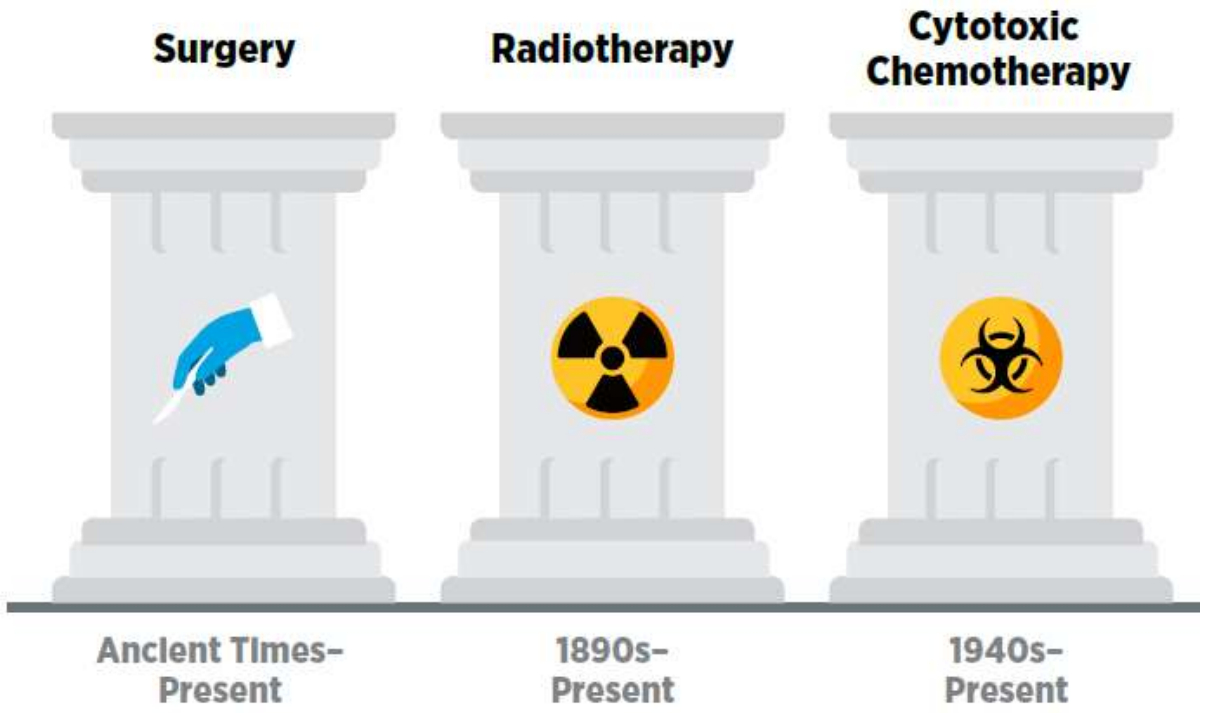
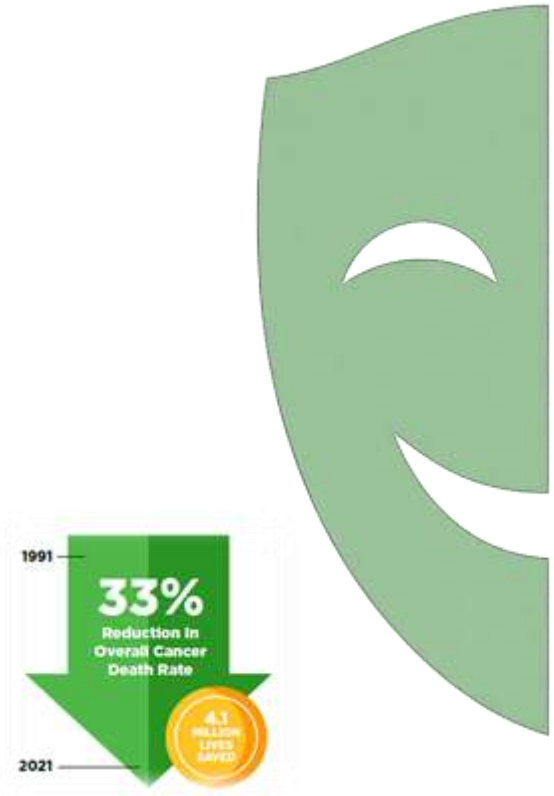
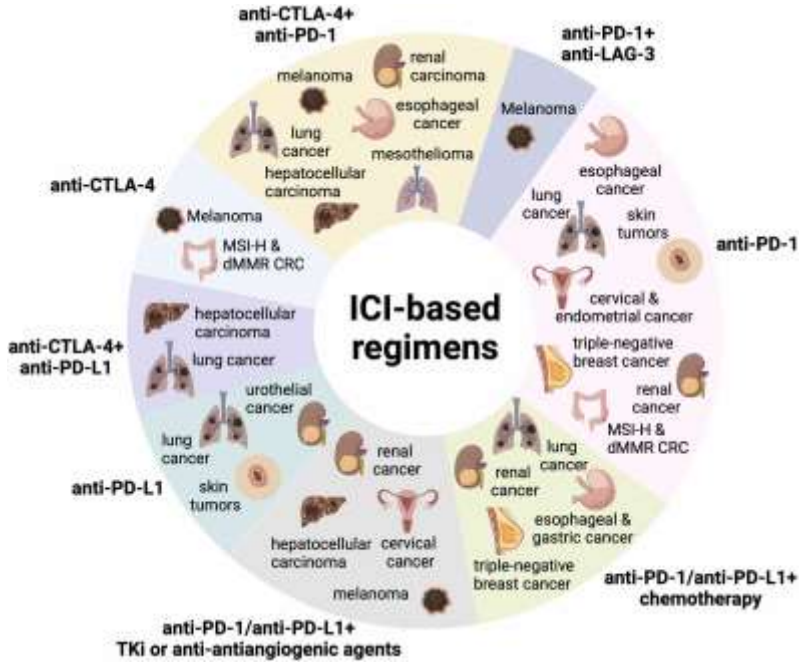




AACR Cancer Progress Report 2024

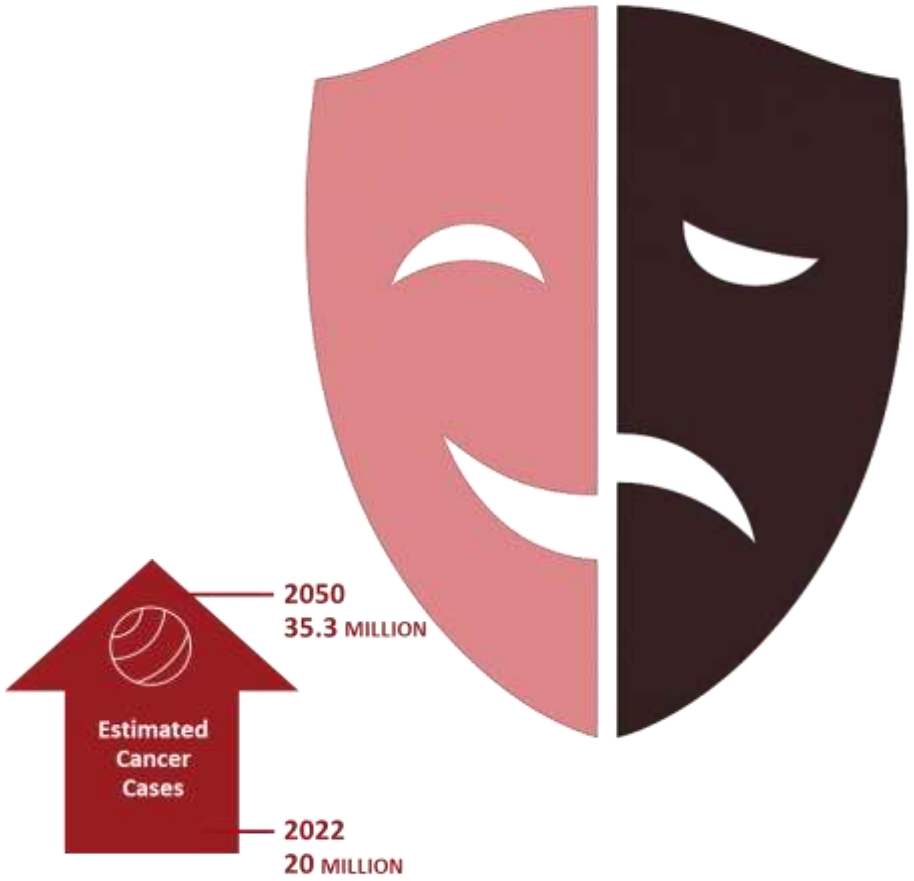
The new era of cancer care

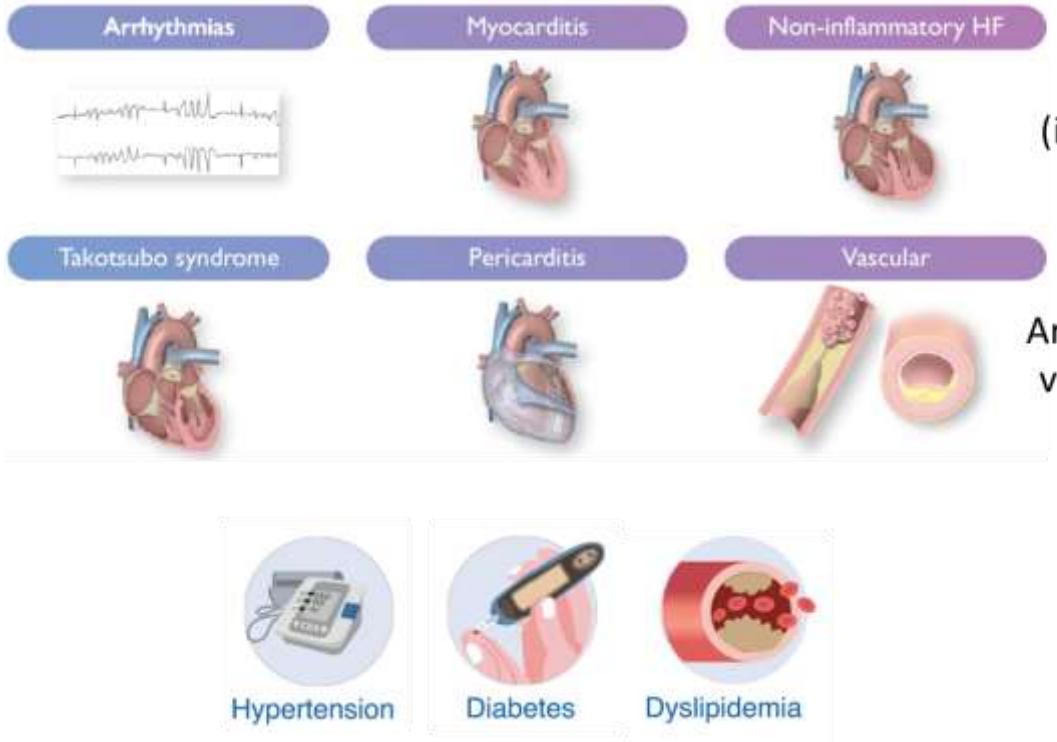




Siegel et al., CA Cancer J Clin 2025 Jan-Feb;75(1):10-45; Tonorezos et al. Journal of the National Cancer Institute, 2024
Cerella C et al. Pharmacol Res . 2023 Oct:196:106914.

The CTR-CVT landscape has changed





2022 ESC Guidelines on cardio-oncology. European Heart Journal (2022) 43, 4229–4361

What defines CTR-CVT risk?

Clinical cases

#1

53-year-old man

- Bicuspid aortic valve (AVA 0.6cm^2/m^2)
- **2024 Locally advanced NSCLC (IIIB) EGFR +**
- **LVEF 65%**

#2

44-year-old women

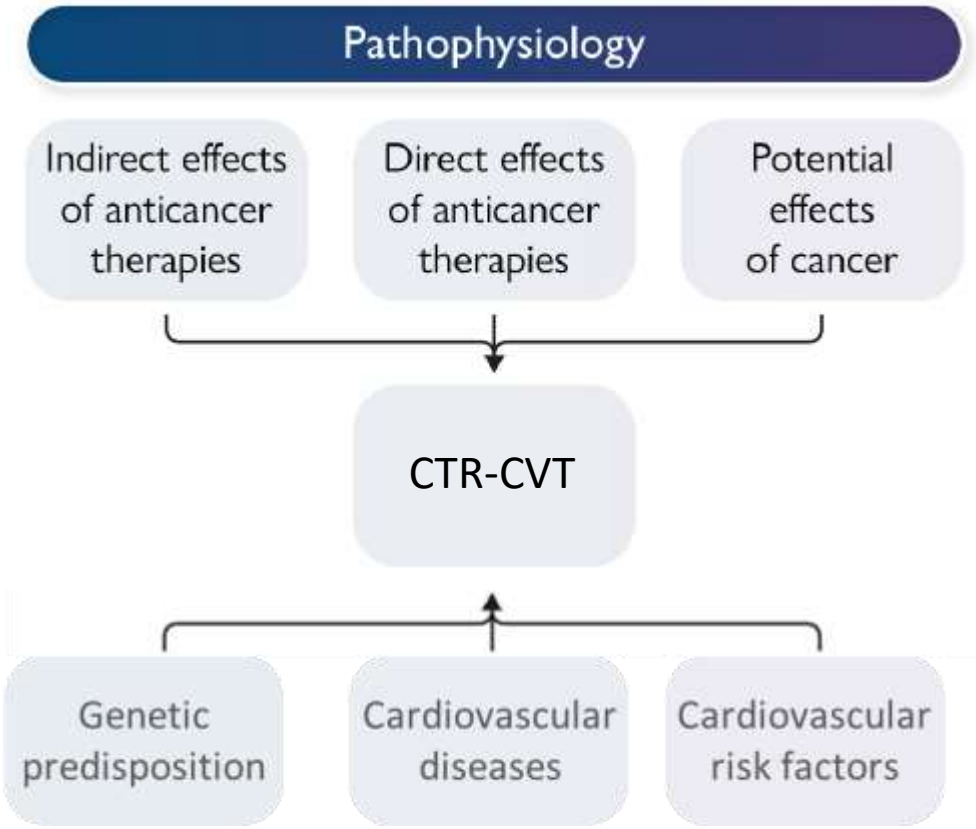
- Hodgkin lymphoma at age 17: ABVD + RT
- **2024 Triple-negative breast cancer**
- **LVEF 53%**

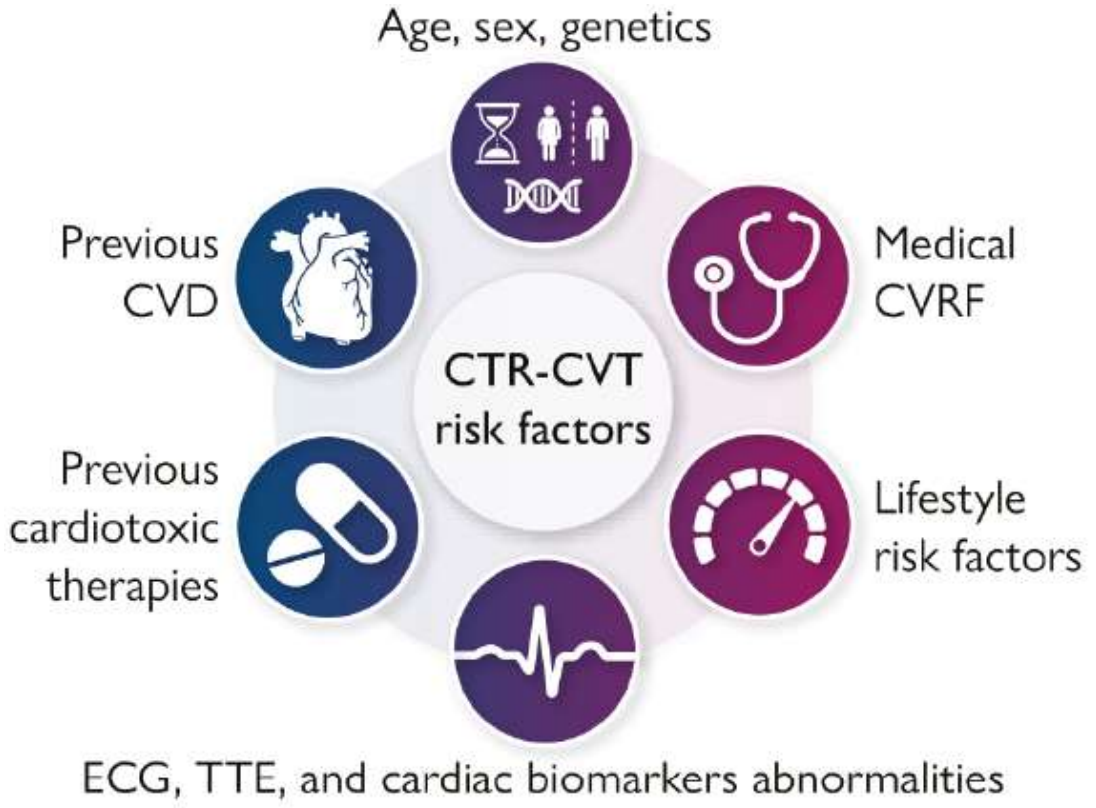
#3

62-year-old women

- 2004 CML Ph+
  - *Imatinib*
  - *Nilotinib*
  - *Dasatinib*
  - *Bosutinib*
  - 2024 Asciminib
- **LVEF 56%**

What defines CTR-CVT risk?





Rakisheva A. et al Eur J Heart Fail. 2025 Nov;27(11):2084-2099.

HFA-ICOS risk score

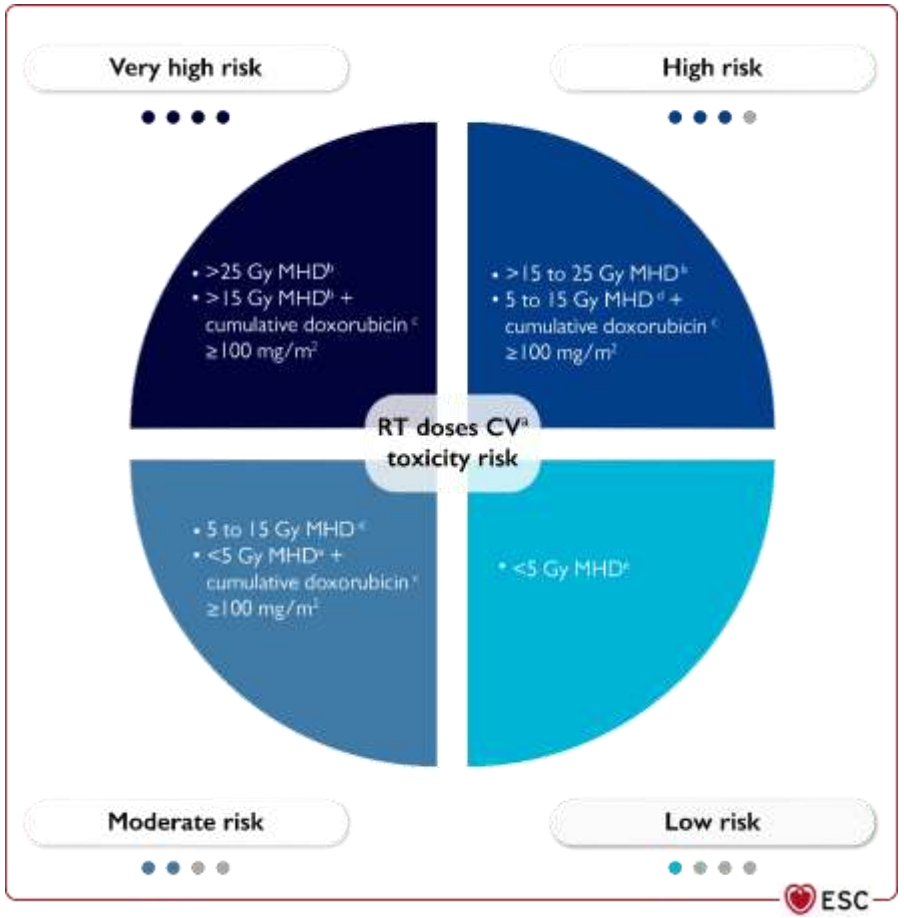
Risk factor	Score
Previous CVD	
HF or cardiomyopathy	Very high
MI or CABG	High
Stable angina	High
Severe VHD	High
Arrhythmia[a]	Medium2
Cardiac imaging	
Baseline LVEF < 50%	High
Borderline LVEF 50–54%	Medium2
Cardiac biomarkers (where available)	
Elevated baseline troponin[b]	Medium2
Elevated baseline BNP or NT-proBNP[b]	Medium2
Demographic and CVRF	
Age ≥ 80 years	High
Age 65–79 years	Medium2
Hypertension[c]	Medium1
DM[d]	Medium1
Chronic kidney disease[e]	Medium1
Current cancer treatment regimen	
Includes anthracycline before HER2-targeted therapy	Medium1[f]
Current cancer treatment regimen	
Includes anthracycline before HER2-targeted therapy	Medium1[f]
Previous cardiotoxic cancer treatment	
Prior trastuzumab cardiotoxicity	Very high
Prior (remote) anthracycline exposure[g]	Medium2
Prior RT to left chest or mediastinum	Medium2
Lifestyle risk factors	
Current smoker or significant smoking history	Medium1
Obesity (BMI > 30 kg/m^2)	Medium1

	Score	CTR-CVT risk
Low risk	0-1	<2%
Med risk	2-4	2-9%
High risk	≥5 or any HR	10-19%
Very HR	any very HR	>20%

- Anthracycline
- HER2 targeted therapies
- VEGF inhibitors
- RAF/MEK inhibitors
- BCR-ABL inhibitors
- Multiple myeloma

2022 ESC Guidelines on cardio-oncology. European Heart Journal (2022) 43, 4229–4361

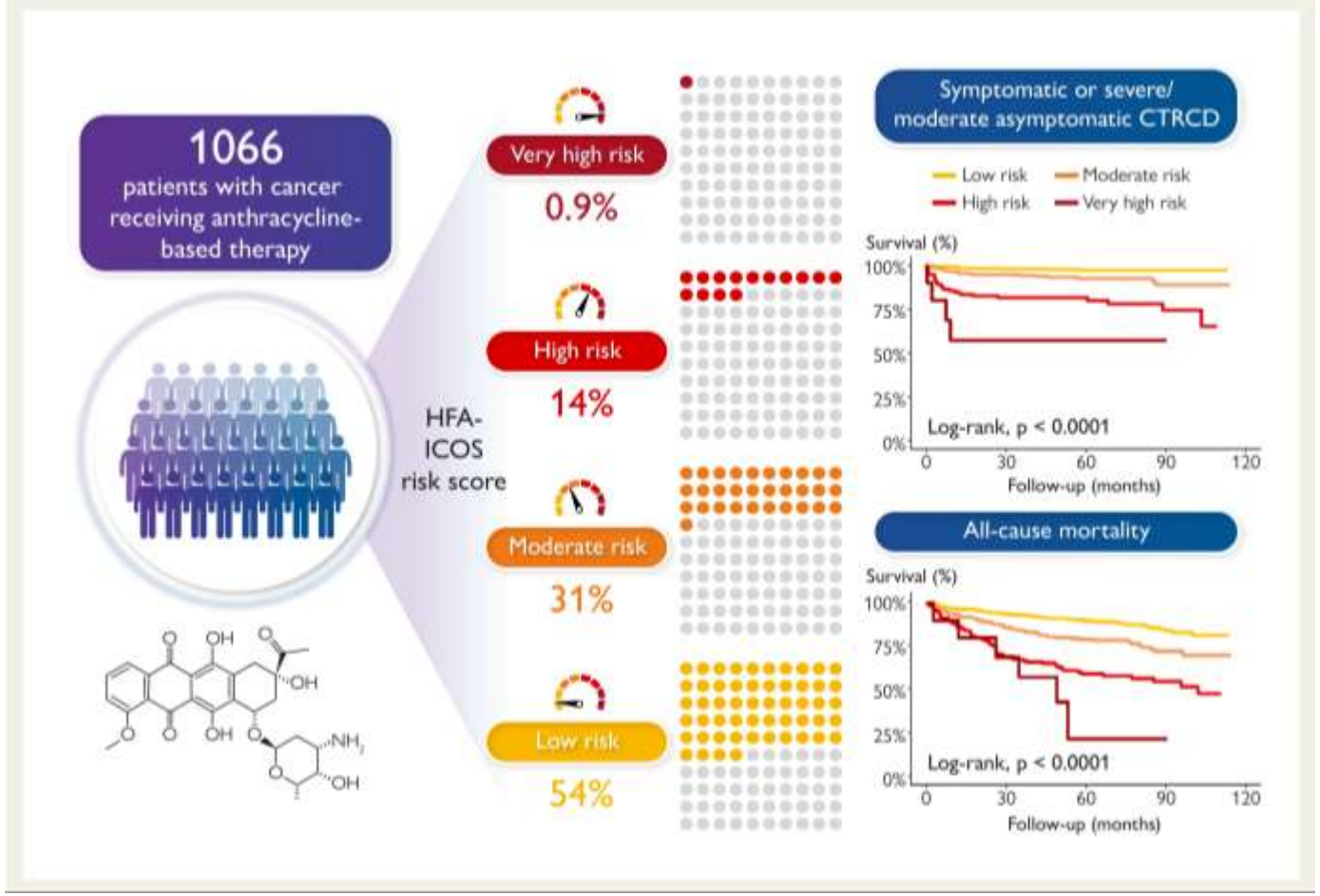
Thoracic radiotherapy

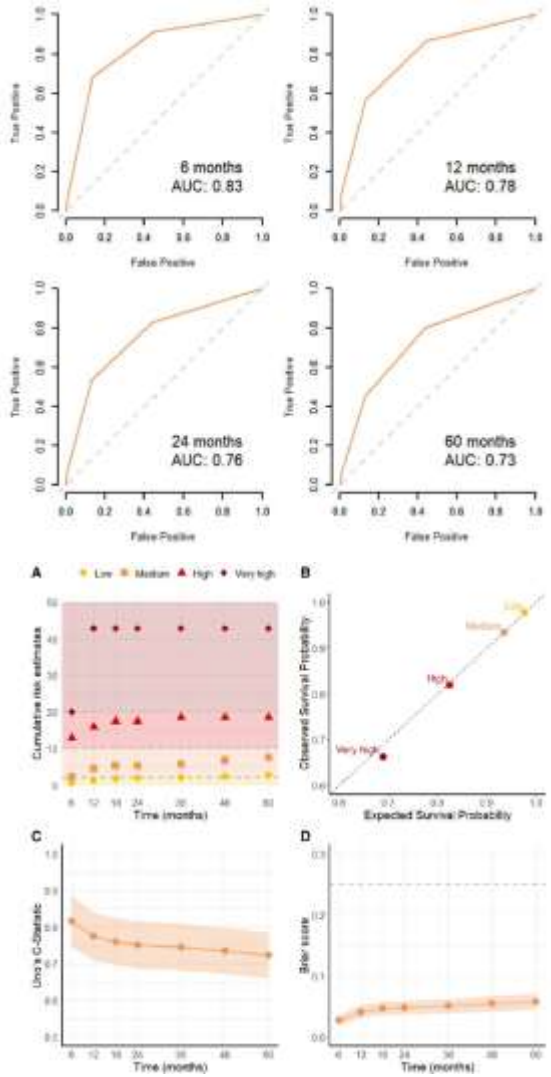


- **SCORE2/SCORE2-OP**
- **RT risk categorization based on MHD** is recommended over categorization based on prescribed dose, which may not accurately reflect cardiac radiation exposure.
- **Depending on dose distribution and exposure of specific cardiac substructures** (as well as clinical risk factors) the treatment team may judge the **patient to belong to a higher or lower risk category**.

2022 ESC Guidelines on cardio-oncology. European Heart Journal (2022) 43, 4229–4361

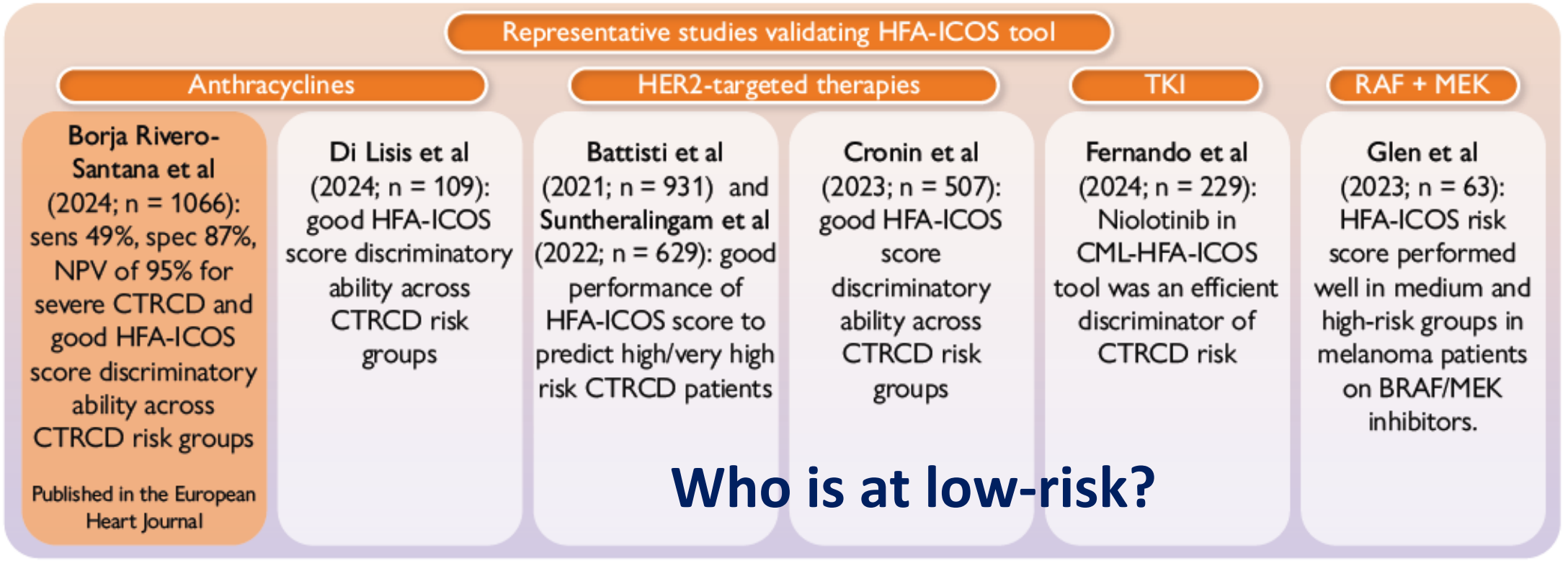
HFA-ICOS risk score





Rivero-Santana et al European Heart Journal (2025) 46, 273–284

HFA-ICOS risk score

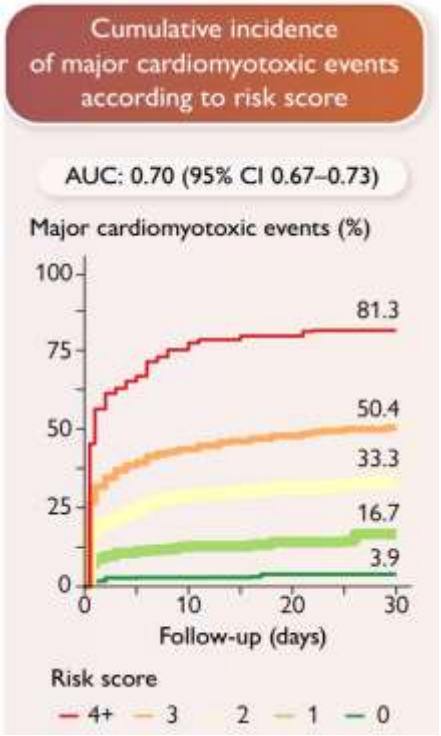


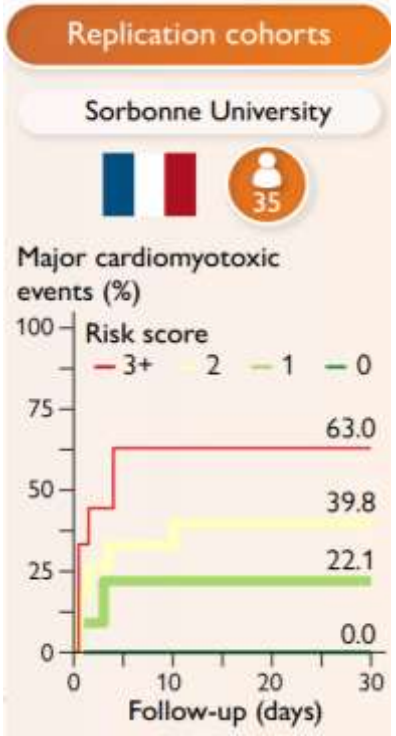
Lloyd E. Butel-Simoes , Doan T.M. Ngo, and Aaron L. Sverdlov et al **European Heart Journal (2025) 46, 285–287**

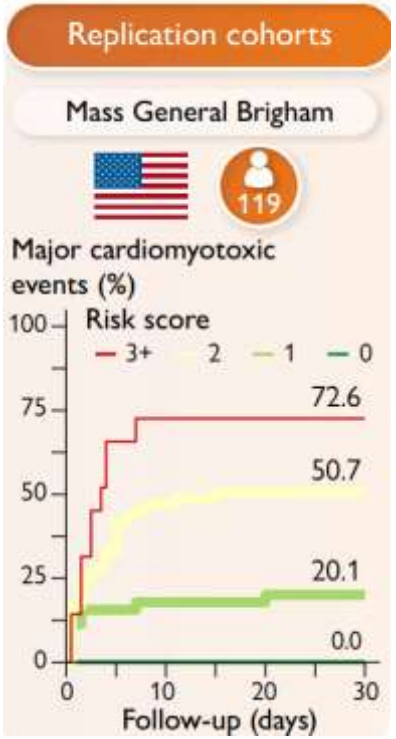
Risk score for severe ICI-myotoxicity

Derived risk score

Risk score parameters	Points
Active thymoma	+2
Cardiomuscular symptoms	+1
ECG: Sokolow-Lyon voltage ≤0.5 mV	+1
Left ventricular ejection fraction <50%	+1
Troponin (preferentially T, otherwise I)	
• >20 to 200 folds the ULN	+1
• >200 to 2000 folds the ULN	+2
• >2000 folds the ULN	+3

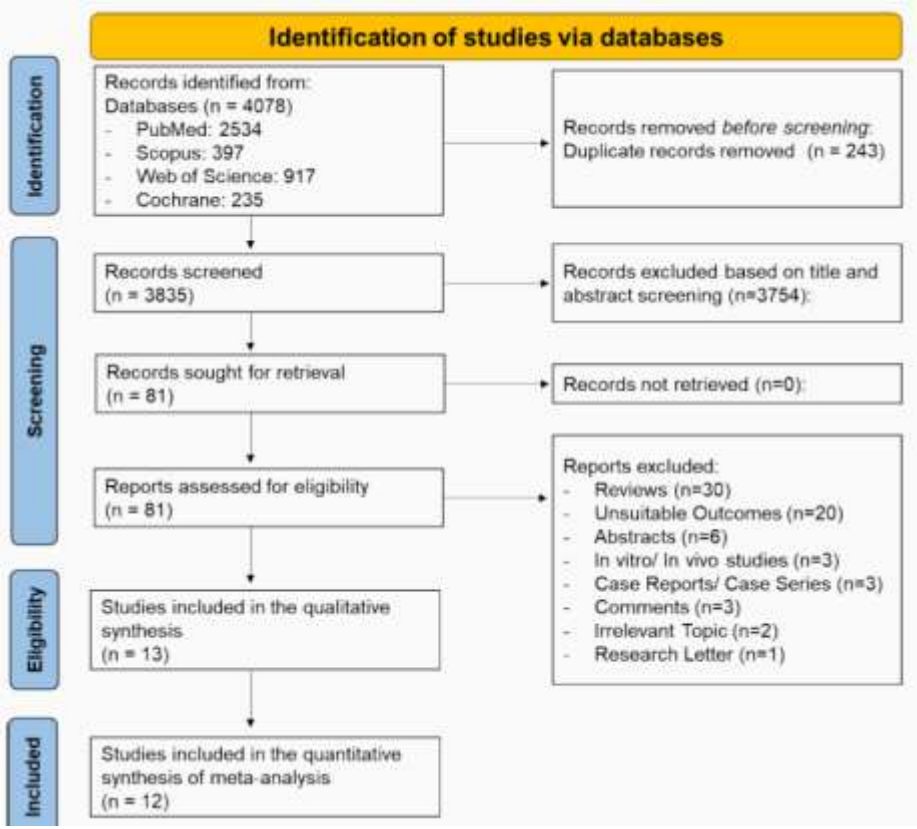






Power JR et al. Eur Heart J. 2025 Jun 18:ehaf315. doi: 10.1093/eurheartj/ehaf315.

CAR-T7 baseline risk score

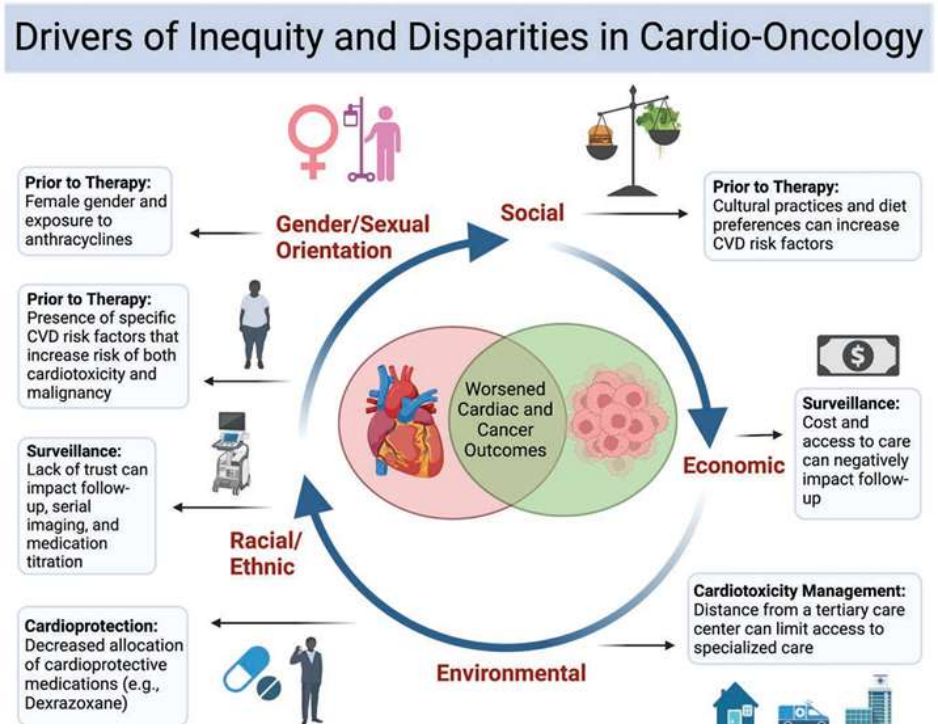


Risk factors	Points
Heart Failure	10
Atrial Fibrillation	9
Coronary Artery Disease	8
Hyperlipidaemia	2
Diabetes	2
Hypertension	1
Smoking	1

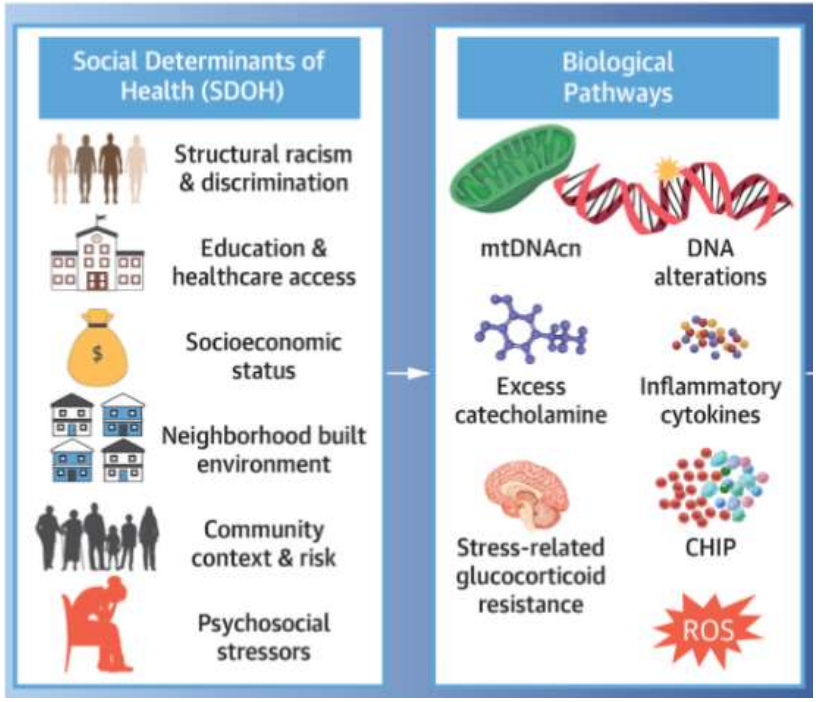
Total score	Risk level
0-8	Low
9-17	Moderate
18-25	High
26-33	Very high

Farmakis D et al. European Journal of Haematology, 2025; 0:1–12. https://doi.org/10.1111/ejh.70040

Uncovering Hidden Risks: SDOH

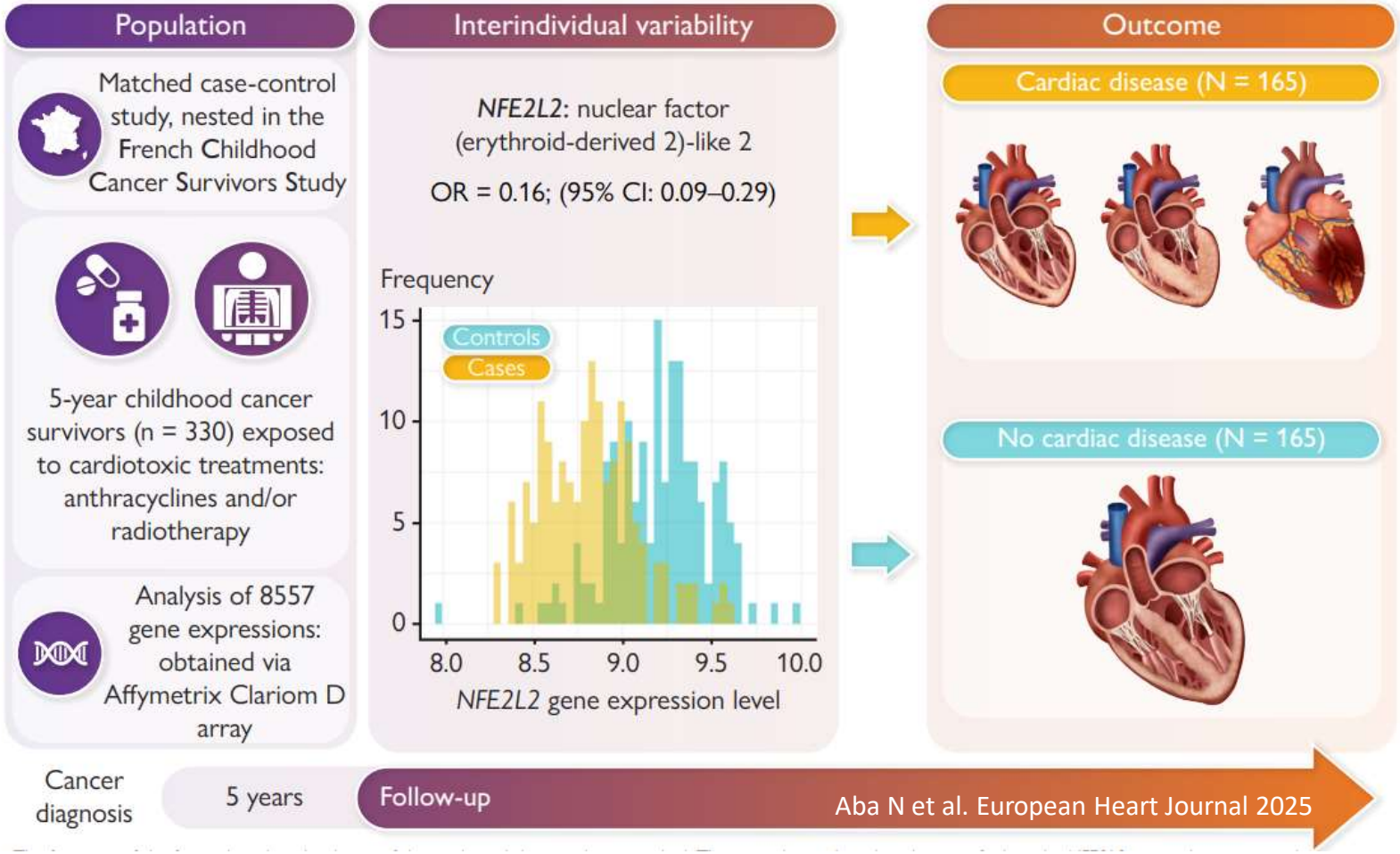


Circulation. 2023;148(3):297-308



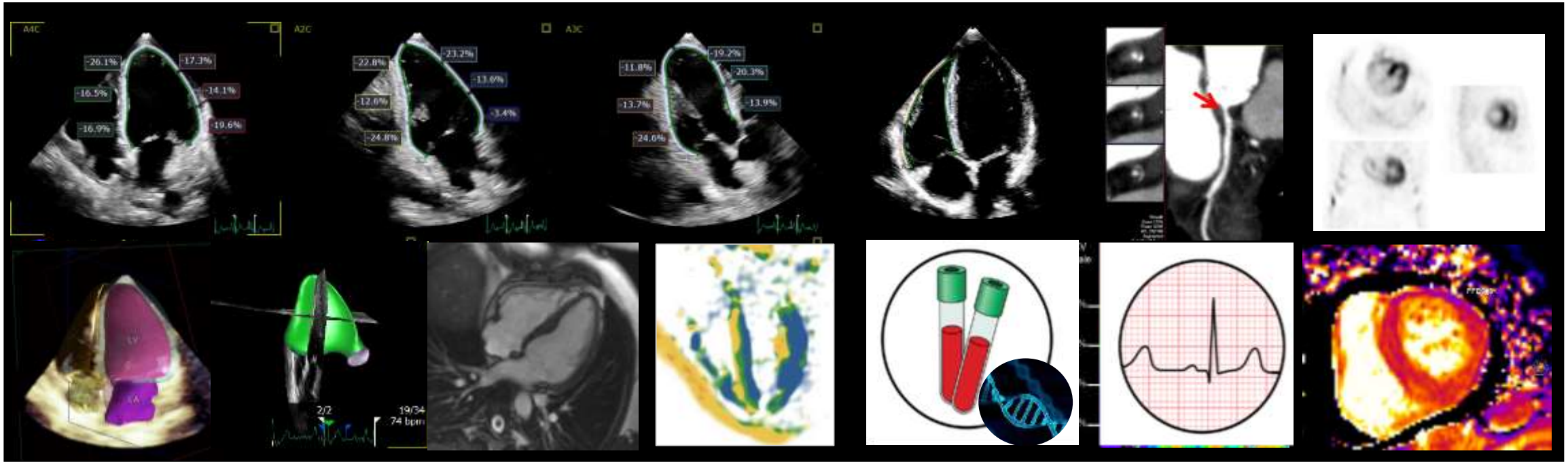
J Am Coll Cardiol CardioOnc 2024;6:331–346)

Uncovering Hidden Risks: Genetics



Aba N et al. European Heart Journal 2025

From LVEF to comprehensive imaging, biomarkers, genes and AI



New challenges

The supporting evidence is continually developing

Is there a possibility that we are detecting too much?

Where is the threshold? How much is too much?

What should guide our decisions?

How much toxicity can we safely tolerate?

Mild toxicity: warning sign or background noise?

Special populations…

Timely access to new resources

ESC CARDIO ONCOLOGY 2026

SAVE THE DATES

The annual conference of the ESC Council of Cardio-Oncology

19-20 JUNE
VIENNA
AUSTRIA

Important deadlines

29 January 2026
Abstract submission

05 February 2026
Clinical Cases submission

ESC Council Cardio-Oncology

#ESCardioOnco26

CAS in Cardio-Oncology

A global programme designed to shape future leaders in Cardio-Oncology

Accredited by University of Zurich (UZH)

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10 ECTS credits/300 hours

ESC Council Cardio-Oncology

Risk stratification is essential to structure cardio-oncology strategies in an era of **increasingly complex patients, novel therapies, and a growing cancer population**.

Future needs for CV toxicity risk assessment

- **Standardising CTR-CVT criteria** (definitions and grading)
- A stronger stream of **basic and translational research**
- **Adopt a risk-adapted trial approach** to CV data collection and monitoring in onco-haematology trials and RWD

Thank you!

To champion excellence and innovation

by fostering future leaders in cardiovascular medicine

www.EuropeanHeartAcademy.org

https://www.escardio.org/events/councils-events/esc-cardio-oncology/