1048P Cardiovascular toxicities in cancer patients treated with immune checkpoint inhibitors: Evidence from a Belgian real-world multicenter study

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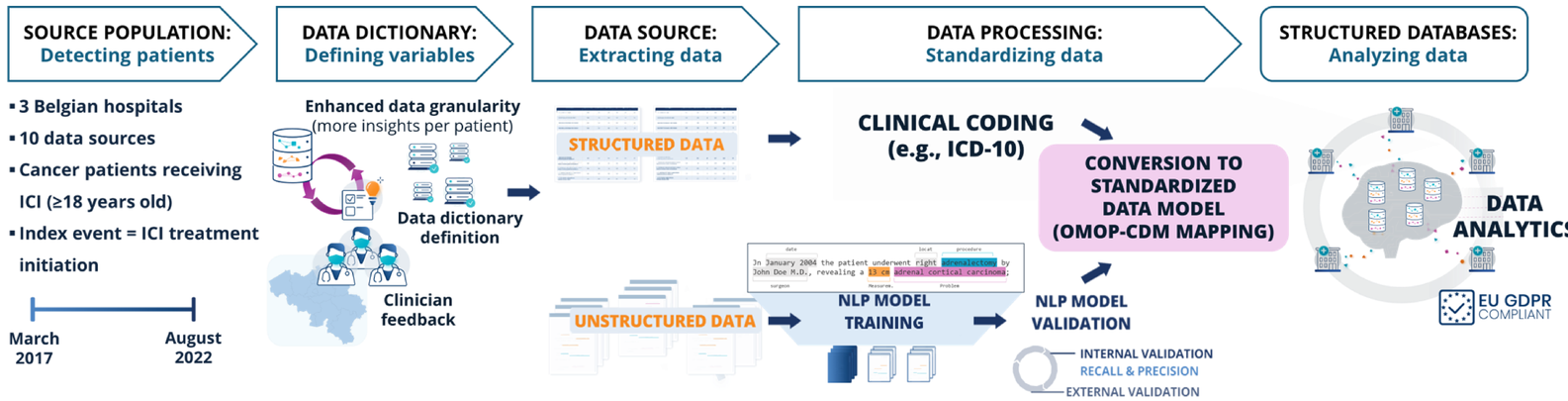
BACKGROUND AND AIMS

- **Immune checkpoint inhibitors (ICIs)** have been associated with **cardiovascular (CV) adverse events (AE).**
- We aimed to describe the proportion of CV events in a **real-world cohort of Belgian cancer patients.**
- We included **1571 patients** who received at least 1 ICI cycle between **March 2017 and August 2022** at 3 Belgian hospitals.

METHODS

- Retrospective multicenter study
- Processed anonymized **electronic health records** (EHR).
- Used **natural language processing** (NLP) and machine learning.
- The pipeline mapped 597 variables to **SNOMED-CT**
- The resulting **OMOP CDM databases** were validated per hospital, ensuring patient privacy



RESULTS AND CONCLUSIONS

Figure 1. Patient demographics. The graphs below show the age distribution, sex, performance status, and ICI treatment combinations.

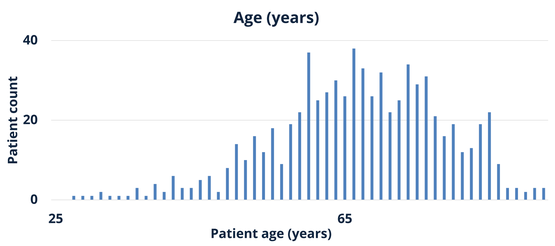


Table 1. CV events after ICI initiation.

Cardiac event	*Total, n (%)*	*Time of onset (days), median (min, max)*
Patients	*1571 (100)*	
Takotsubo cardiomyopathy	< 5	529 (91, 967)
Atrioventricular block	30 (1.9)	282.5 (2, 1570)
Pericarditis	7 (0.4)	243 (83, 1220)
Acute myocardial infarction	32 (2.0)	209.5 (12, 1410)
Vasculitis	12 (0.8)	173.5 (7, 1030)
Atrial fibrillation	72 (4.6)	152 (7, 1650)
Heart failure	84 (5.3)	149 (1, 1350)
Myocarditis	19 (1.2)	109 (17, 849)

Figure 2. Relative time of onset (days) of CV events from the index date.

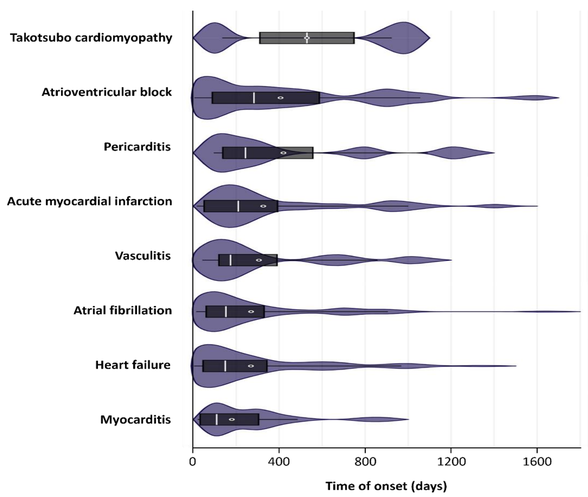
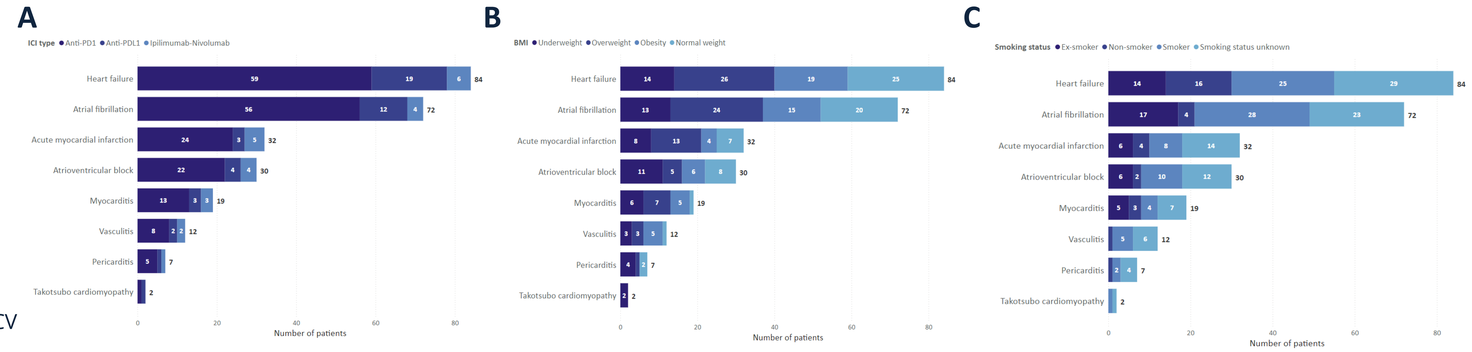


Figure 3. CV events across multiple demographic and clinical characteristics. **A.** ICI treatment type. **B.** Body mass index. **C.** Smoking status **D.** Performance status. **E.** Tumor type.



CONCLUSIONS: To our knowledge, this is the first study using a dataset enriched with **NLP-processed EHRs** that describes the frequency and onset time of CV events. The **frequency of CV events was higher** than reported in clinical trials, but similar to other real-world studies. However, we did observe a **later time to onset**. Hence, clinicians should note that CV AEs can present in **various ways** and **at any time during or after treatment.**

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The presenting author does not have any conflicts of interest.