

Shifting Patterns of Thrombotic Events Among Hospitalized Patients With Hematologic Malignancies Before and After COVID-19

*A National Inpatient Sample Analysis, 2019–2023*SOHO Annual Meeting | Poster Presentation
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Key finding: After COVID-19, hospitalized patients with hematologic malignancies showed higher odds of stroke, pulmonary embolism, and DIC, while myocardial infarction decreased and overall VTE remained unchanged.

1 BACKGROUND



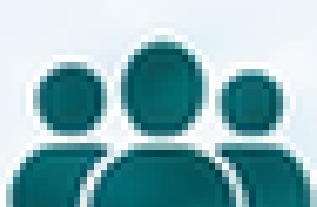
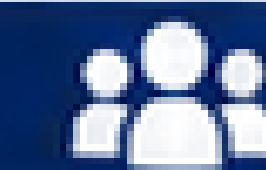
- Cancer-associated coagulopathy and COVID-19 both increase thrombotic risk.
- Prior studies suggested increased thrombosis in hematologic malignancies with COVID-19, but most were small cohorts.
- We evaluated national temporal changes in arterial and venous thrombotic outcomes before versus after the COVID-19 era.

2 METHODS

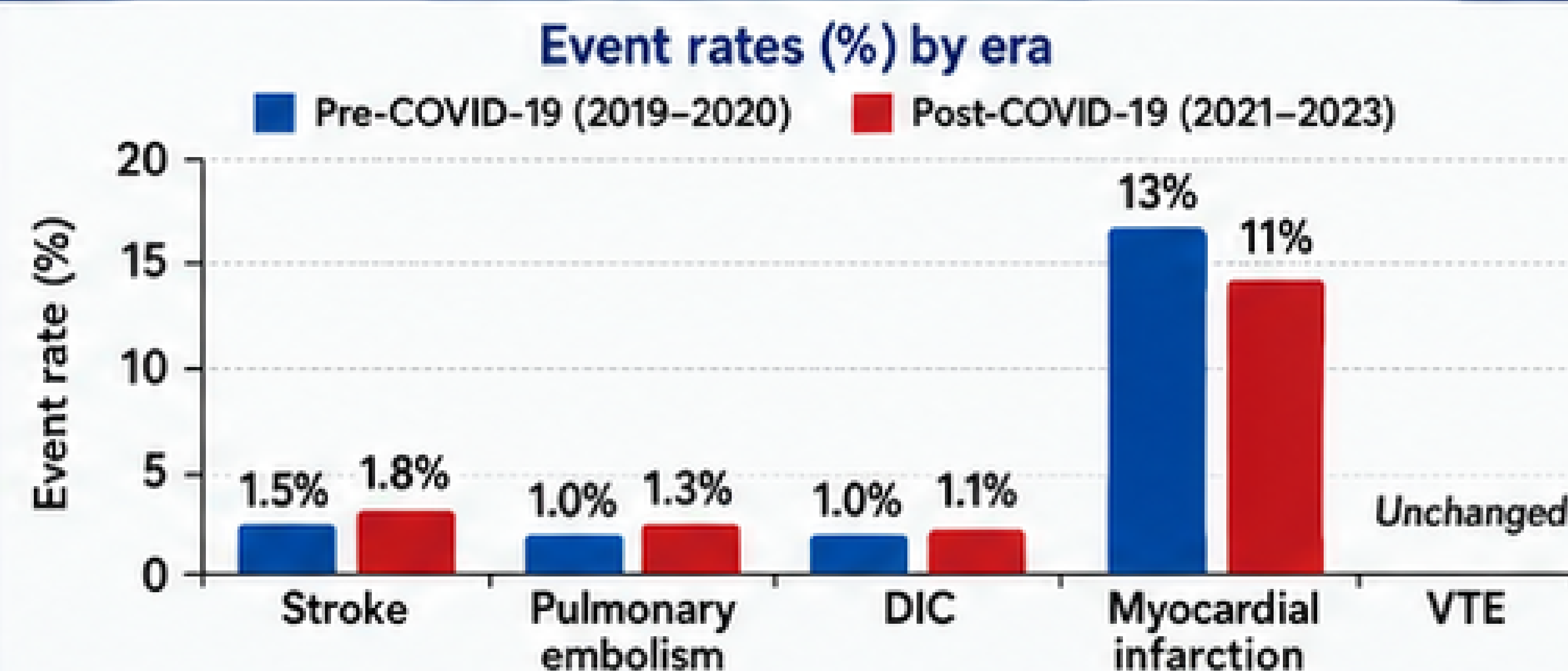


- Retrospective cohort study using the 2019–2023 National Inpatient Sample (NIS).
- Included adults aged 18 years or older hospitalized with hematologic malignancies identified by ICD-10 codes.
- Thrombotic outcomes: stroke, pulmonary embolism, myocardial infarction, disseminated intravascular coagulation, and venous thromboembolism.
- Compared pre-COVID-19 period (2019–2020) versus post-COVID-19 period (2021–2023).
- Multivariable logistic regression adjusted for demographic and clinical covariates.

3 STUDY POPULATION

 **1,324,890**
total hospitalized adults
with hematologic
malignancies **282,080**
experienced a
thrombotic event **78%**
of thrombotic events
occurred in the
post-COVID-19 era Mean age:
68 years **Predominantly White (72%) and male (62%)**

4 RESULTS: THROMBOTIC EVENTS



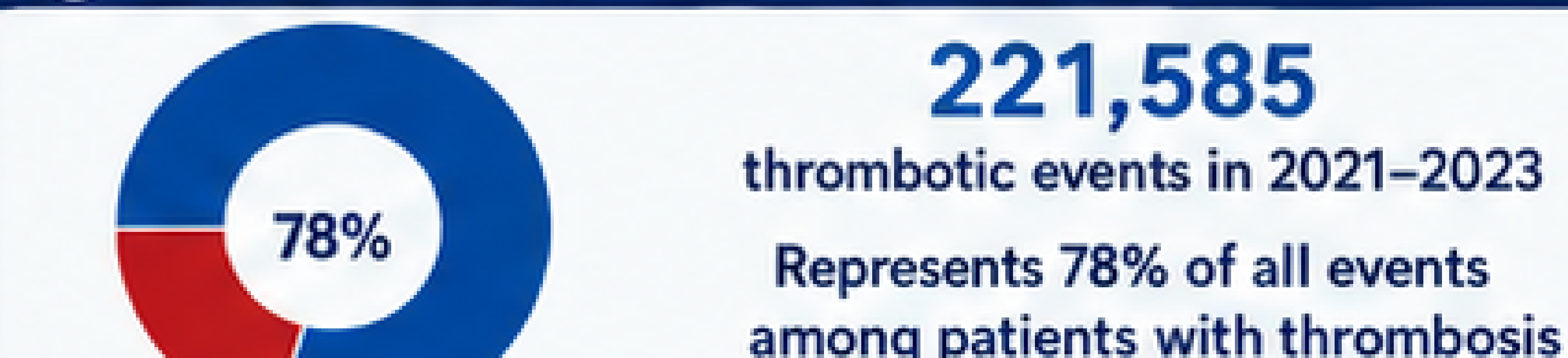
Note: Pre-COVID-19 = 2019–2020; Post-COVID-19 = 2021–2023.

5 ADJUSTED ASSOCIATIONS



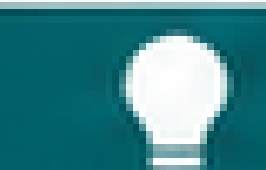
Outcome	OR	P value	Interpretation
Stroke	1.20	p<0.001	Higher
Pulmonary embolism	1.30	p<0.001	Higher
DIC	1.13	p<0.05	Higher
Myocardial infarction	0.89	p<0.001	Lower
VTE	1.00	p=0.794	No change

6 ERA DISTRIBUTION OF EVENTS



This suggests a post-COVID shift toward cerebrovascular and thromboinflammatory complications rather than uniform increases across all thrombotic outcomes.

7 INTERPRETATION



- Post-COVID era was associated with higher cerebrovascular and pulmonary embolic complications.
- DIC also increased, consistent with a thromboinflammatory phenotype.
- MI decreased despite higher stroke and PE, suggesting the thrombotic profile changed rather than simply intensified.
- Overall VTE rates did not increase.

8 CONCLUSIONS



Among hospitalized patients with hematologic malignancies, the post-COVID-19 era was marked by significant temporal changes in thrombotic events, with increased stroke, pulmonary embolism, and DIC; reduced myocardial infarction; and stable VTE rates.

- Findings highlight the need for risk stratification that distinguishes arterial, venous, and thromboinflammatory events.
- Future work should evaluate mechanisms, anticoagulation practices, and outcomes by hematologic malignancy subtype.

9 CLINICAL RELEVANCE



- Hospitalized patients with hematologic malignancies remain a high-risk population for thrombosis.
- COVID-19 era may require closer attention to neurologic and thromboinflammatory complications.
- Subtype-specific monitoring may be more informative than treating thrombosis as a single composite outcome.

10 REFERENCES



1. PubMed PMID: 35058217.
2. Blood. Outcomes of patients with hematologic malignancies and COVID-19.
3. PubMed PMID: 33187811.
4. PubMed PMID: 35567609.

