

Cancer-Associated Thrombosis in Andalusia: Incidence and Temporal Trends from a Large Population-Based Healthcare Database.

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Background

Cancer-associated thrombosis (CAT) is a major cause of morbidity and mortality in patients with cancer. However, contemporary population-based data remain limited, particularly in Southern Europe. We aimed to assess the incidence of venous thromboembolism (VTE) across different cancer types and evaluate temporal trends in VTE and mortality.

Methods

We conducted a retrospective population-based cohort study using the Andalusian Population Health Database, including adults newly diagnosed with cancer between 2014 and 2021. Cancer-specific cumulative VTE incidence was estimated accounting for death as a competing event. Inverse probability of treatment weighting (IPTW) was used to adjust for baseline differences, and Fine-Gray regression models were applied to assess temporal trends.

Results

Among 329,009 patients, 16,009 (4.9%) developed VTE during follow-up. The 12-month cumulative incidence varied substantially across cancer types, being highest in pancreatic (10.55%, 95% CI 9.74–11.36), liver (9.05%, 95% CI 8.23–9.86), stomach (6.64%, 95% CI 5.91–7.38), and lung cancer (5.95%, 95% CI 5.67–6.24). Conversely, prostate (0.91%) and breast cancer (1.32%) showed the lowest incidences.

Mortality differed substantially across cancer types, particularly among those with the highest thrombotic burden. Between 2014 and 2021, VTE incidence increased across most cancer types, with adjusted subdistribution hazard ratios per calendar year ranging approximately from 1.05 to 1.17, while mortality generally declined.

Conclusions

In this large population-based cohort, VTE incidence varied markedly by cancer type and increased over time despite declining mortality. These findings highlight the importance of accounting for competing mortality when estimating CAT risk and support cancer-specific approaches to thrombotic risk assessment and prevention.