

ARTERIAL THROMBOSIS

INCIDENCE AND PREDICTORS OF ARTERIAL THROMBOSIS IN CANCER PATIENTS: RESULTS FROM THE PROSPECTIVE COMPASS-ARTERIAL CANCER ASSOCIATED THROMBOSIS (COMPASS-ARTECAT) STUDY

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Introduction. While cancer-associated venous thromboembolism is well characterized, arterial cancer-associated thrombosis (ARTECAT) remain under-recognized. Prospective data on the incidence, timing, and predictors of ARTECAT in patients with cancer are limited.

Aim. We aimed to assess the burden of ARTECAT and to identify clinical and biological predictors in a real-world cancer population.

Materials and Methods. The COMPASS-Arterial Cancer Associated Thrombosis (COMPASS-ARTECAT) study was a multi-center, prospective, non-interventional cohort study enrolling ambulatory adults with solid tumors or selected hematological malignancies receiving or scheduled to receive systemic anticancer therapy. Patients with recent venous or arterial thrombosis or ongoing anticoagulation were excluded. Participants were followed for 12 months for the occurrence of symptomatic ARTECAT, including acute coronary syndromes, ischaemic stroke or transient ischaemic attack, and other systemic arterial embolic events. Cumulative incidence of ATE was estimated, and potential clinical, oncologic, and laboratory predictors were evaluated.

Results. Among 1064 enrolled patients (median age 65

years; 60% male), 72% had advanced or metastatic disease. During 12 months of follow-up, 85 patients (7.98%) experienced at least one arterial thrombotic event (ATE). The cumulative incidence of ATE was 4.47% (95% CI 3.34-5.84) at 3 months, 5.90% (95% CI 4.59-7.44) at 6 months, and 7.68% (95% CI 6.17-9.41) at 12 months, with more than half of events occurring within the first 3 months after study entry. Non-ST-elevation myocardial infarction and ischaemic stroke were the most frequent early manifestations. ATE occurred more commonly in patients with lung cancer, advanced or metastatic disease, active smoking, obesity, hypertension, and renal impairment, as well as in those receiving anti-angiogenic agents or erythropoietin. Occurrence of ATE was associated with significantly reduced overall survival, whereas bleeding events were infrequent.

Conclusions. Arterial thrombosis is a frequent, early, and clinically severe complication in patients with cancer, particularly among those with lung cancer, advanced disease, and cardiovascular risk factors. These findings highlight the need for dedicated arterial risk assessment and targeted prevention strategies in oncology practice.