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CANCER-ASSOCIATED THROMBOSIS IN ASPIRIN-TREATED PATIENTS AFTER ARTERIAL THROMBOSIS: THE COMPASS-ARTECAT-ASA PROSPECTIVE COHORT STUDY

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Introduction. Aspirin is a cornerstone of secondary prevention for arterial thrombosis. However, the influence of cancer on recurrent arterial thromboembolism (ATE), venous thromboembolism (VTE), and mortality in patients with ATE treated with aspirin remains poorly defined.

Aim. The prospective cohort study COMPASS-ARTeCAT-ASA assessed the impact of cancer on ATE recurrence, VTE incidence, and all-cause mortality in patients receiving aspirin monotherapy after an arterial thrombotic event. Specifically, we compared outcomes among patients with active cancer diagnosed before ATE, cancer diagnosed after ATE, and patients with ATE without cancer, and evaluated the real-world effectiveness of aspirin in these high-risk populations.

Materials and Methods. We analyzed 2,133 consecutive patients on aspirin 75–100 mg after an index ATE. Patients were stratified into three groups: cancer preceding ATE (Group 1, n=198), cancer following ATE (Group 2, n=29), and no cancer (Group 3, n=1,906). Median follow-up 3.5 years. Primary endpoints: clinically confirmed recurrent ATE, symptomatic VTE (DVT/PE with imaging), and all-cause mortality. Continuous variables are presented as median (IQR) and compared with Kruskal–Wallis or Mann–Whitney U tests. Categorical data as counts (percentages) and compared with chi-square or two-proportion z-tests. Bonferroni-corrected $p<0.0167$.

Results. ATE recurrence was higher in Group 1 (8.1%) and Group 2 (6.9%) than in Group 3 (2.4%), with a significant difference between Group 1 and Group 3 ($p<0.001$). VTE incidence was markedly increased in cancer patients (Group 1: 4.5%; Group 2: 10.3%) compared with Group 3 (0.9%) ($p<0.001$ for both comparisons). All-cause mortality was significantly higher in Group 1 (12.1%) than in Group 3 (3.4%) ($p<0.001$). No significant differences were observed between Groups 1 and 2.

Conclusions. In patients receiving aspirin for secondary prevention of arterial thrombosis, cancer—especially when diagnosed before the arterial event—is associated with substantially higher risks of recurrent ATE, VTE, and death. Aspirin monotherapy appears insufficient to counteract cancer-associated thrombotic risk. These findings support systematic VTE risk assessment and pharmacological thromboprophylaxis in high-risk patients, development of cancer-associated arterial thrombosis risk models, and investigation of more effective strategies to prevent arterial thrombosis recurrence in active cancer.