

ATRIAL FIBRILLATION AND CANCER: EVIDENCE FOR AN EPIDEMIOLOGICAL LINK

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Arrhythmias

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Background: Atrial fibrillation (AF) is the most common arrhythmia encountered in clinical practice. Hypertension, heart failure, valvular and coronary artery disease are the most frequent cardiovascular conditions related to AF. The association of the arrhythmia with chronic inflammation and increased mortality let us hypothesize a link with other relevant non-cardiac diseases. Aim of this study was to analyze the relationship between AF and cancer in the Florence district (N=810,000 inhabitants).

Methods: All patients hospitalized for AF (as primary diagnosis) for the first time between 2005 and 2007, with no history of cancer in the previous 5 years, were identified through the Tuscany Inpatient Registry and enrolled in the study. The incidence of cancer during follow-up (closed in 2010) was analyzed using the Tuscany Cancer Registry and compared with that of the general population to estimate the standardized incidence ratio (SIR).

Results: AF was recorded in 16,986 hospital admissions; in 4,270 (25.1%) of those, AF was the primary diagnosis. Because some patients were hospitalized for AF more than ones, the total number of subjects enrolled was 3,323. After the exclusion of patients with a history of cancer (N=1,130), or with incomplete data (N=350), the number remaining for analysis was 1,843. The incidence of cancer in AF patients during follow-up was significantly higher than in the general population (Cases Observed - N=133 vs. Expected - N=88; SIR: 1.51, 95% CI: 1.27-1.79; p<0.001); this was true for men (SIR: 1.40, 95% CI: 1.10-1.75; p=0.003) and women (SIR: 1.56, 95% CI: 1.20-2.02; p<0.001). The analysis by age demonstrated that SIR was significant for subjects aged >65 years (<65: p=0.12; 65-74: p<0.001; >75 years: p=0.002). Stomach (SIR: 1.77; p=0.03), kidney (SIR: 2.79; p<0.001) and brain (SIR: 5.17; p<0.001) were the most frequently observed localizations of cancer in the AF population.

Conclusions: In elderly patients hospitalized for AF the incidence of cancer during follow-up is higher than in the general population. Further studies will be necessary to identify the subset of patients at higher risk to be closely monitored for the presence of malignant neoplasms.

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