40.6 years, age range 24.1–97.6 years, 51.7% women) from four community-based European studies (FINRISK, DanMONICA, Moli-Sani, Northern Sweden) we examined AF incidence, its association with mortality, common risk factors, biomarkers and prevalent cardiovascular disease by gender. Follow-up information was available from study-specific case adjudication and national hospital discharge register data including ambulatory visits, and causes of death register data.

**Results:** Over a median follow-up of 12.6 years fewer AF cases were observed in women, N=1,796 (4.4%) than in men N=2,465 (6.4%) (P=0.001). The cardiovascular risk factor distribution and lipid profile at baseline was less beneficial in men compared to women; cardiovascular disease was more prevalent in men. Cumulative incidence increased exponentially after the age of 50 in men, after 60 in women, but became similar at the age of 90. The incidence of AF increased the risk of death more than 3.5-fold in both genders. Multivariable-adjusted models showed gender differences for the association of body mass index (BMI) and AF; hazard ratio (HR) per standard deviation (SD) increase 1.18, 95% confidence interval (CI) 1.12 to 1.23 in women versus HR 1.31, 95% CI 1.25 to 1.38 in men; Pinteraction=0.001. Total cholesterol was inversely associated with incident AF with a stronger risk reduction in women (HR per SD 0.86, 95% CI 0.81 to 0.90 versus HR 0.92, 95% CI 0.88 to 0.97 in men).

**Conclusions:** The association of risk factors with incident AF followed the same direction in women and men. Observed gender differences in the magnitude of the association between BMI and AF and possibly total cholesterol need to be evaluated for their relevance in gender-specific prevention and underlying disease pathophysiology.

### COMORBIDITIES AND MORTALITIES

**P4618 | BEDSIDE**

**Cancer and risk of atrial fibrillation: a systematic review and meta-analysis**

T. Liu1, M. Yuan1, Z. Zhang1, G. Tse2, X. Feng1, P. Korantzopoulos3, G. Li1, Y. Xia4. 1Second Hospital of Tianjin Medical University, Tianjin, China People’s Republic of; 2The Chinese University of Hong Kong, Hong Kong, Hong Kong SAR People’s Republic of China; 3University Hospital of Dalian Medical University, Department of Cardiology, Dalian, China People’s Republic of

**Background:** Previous studies have demonstrated an association between cancer and risk of subsequently developing atrial fibrillation (AF). However, these results have been conflicting.

**Purpose:** We conducted this systematic review and meta-analysis to examine whether cancer patients are at an increased risk of developing AF.

**Methods:** PubMed and Web of Science were searched for all records that examined the association between cancer and AF risk published before September 2016. Adjusted odds ratios (ORs) or hazard ratios (HRs) and 95% CI were examined for their association with all-cause mortality in patients with AF hospitalized for AMI [HR 1.494, p=0.001] and IS [HR 1.426, P<0.001], although this was not the case for patients admitted for HF [HR 0.964, p=0.603].

**Conclusions:** AF is an independent risk factor for mortality after discharge in patients with a previous admission for AMI and IS. However, there is no evidence of that association in patients with AHF.

### Table: Risk of Atrial Fibrillation in Patients with Cancer

<table>
<thead>
<tr>
<th>Diagnosis of hospital admission</th>
<th>HR (95% CI)</th>
<th>Interaction p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI</td>
<td>1.115 (0.737–1.885)</td>
<td>0.293</td>
</tr>
<tr>
<td>AHF</td>
<td>1.003 (0.737–1.367)</td>
<td>0.951</td>
</tr>
<tr>
<td>IS</td>
<td>1.280 (0.977–1.678)</td>
<td>0.065</td>
</tr>
</tbody>
</table>

**P4620 | BEDSIDE**

**Multimorbidity and comorbidity in atrial fibrillation and effects on survival: findings from UK biobank cohort**

B. Jans1, B. Nicholl1, R. McQueenie1, D. Connelly2, P. Hanlon1, K. Gallagher3, D. Lee4, F. Mair1. 1University of Glasgow, General Practice and Primary Care, Glasgow, United Kingdom; 2University of Glasgow, Institute of Cardiovascular and Medical Sciences, Glasgow, United Kingdom; 3University of Glasgow, School of Mathematics and Statistics, Glasgow, United Kingdom

**Background:** Atrial fibrillation (AF) is the commonest sustained arrhythmia but the number and type of comorbid long-term health conditions (LTCs) and their impact on mortality, if any, among people with AF remains unknown.

**Purpose:** To examine the number and type of comorbid LTCS, and their associations with all-cause mortality in UK Biobank participants with AF.

**Methods:** Data were reviewed from 495,010 participants in UK Biobank, an anonymised community research cohort, aged between 40–69 years, recruited between 2006–2010 from across the UK. Self-reported comorbidities (n=42) were identified in 3651 people with AF. All-cause mortality was available for a median follow-up period of 7 years (Interquartile range 76 months to 93 months) by linking UK Biobank records with national mortality records. Hazard Ratios (HRs) examined associations between number and type of comorbid LTCS and all-cause mortality in UK Biobank participants with AF.

**Conclusions:** AF is associated with an increased risk of all-cause mortality in people with AF. However, there is no evidence of that association in patients with AHF.