Abstract: **P3784**

**Impact of progressively impaired renal function on major adverse outcomes in european patients with atrial fibrillation: a report from the ESC EORP-AF long-term general registry**

**Authors:**
G Boriani1, M Proietti2, C Laroche3, I Diemberger4, Z Kalarus5, T Potpara6, L Fauchier7, HJGM Crijns8, A Maggioni9, GYH Lip10, 
1University of Modena & Reggio Emilia, Department of Biomedical, Metabolic and Neural Sciences - Modena - Italy, 
2The Mario Negri Institute for Pharmacological Research - Milan - Italy, 
3European Society of Cardiology, EURObservational Research Programme Department - Sophia-Antipolis - France, 
4University of Bologna, Department of Experimental, Diagnostic and Specialty Medicine - Bologna - Italy, 
5Silesian Center for Heart Diseases (SCHD) - Zabrze - Poland, 
6University of Belgrade, School of Medicine - Belgrade - Serbia, 
7University F. Rabelais of Tours, Centre Hospitalier Universitaire Troussseau et Faculté de Médecine - Tours - France, 
8Maastricht University Medical Centre (MUMC), Department of Cardiology - Maastricht - Netherlands (The), 
9ANMCO Foundation For Your Heart - Florence - Italy, 
10University of Liverpool, Liverpool Centre for Cardiovascular Science - Liverpool - United Kingdom of Great Britain & Northern Ireland,

**On behalf:** EORP-AF Long-Term General Registry Executive Committee and Investigators

**Topic(s):**
Atrial Fibrillation - Clinical

**Citation:**

Background: Renal function is an important predictor of major adverse outcomes in the general population. In the setting of atrial fibrillation (AF), renal dysfunction may act both as a risk factor and a proxy of vascular risk factors and comorbidities.

Methods: We analyzed the association of renal function, as estimated glomerular filtration rate (eGFR) using the CKD-EPI formula, with 1-year outcomes in a "real-world" cohort of European AF patients from the EORP-AF Long-Term General Registry.

Results: 7725 were available for this analysis. Of these, 1294 (16.7%) had normal renal function (=90 mL/min/1.73 m²), 3848 (49.8%) mildly reduced renal function (60-89 mL/min/1.73 m²), 2311 (29.9%) moderately reduced renal function (30-59 mL/min/1.73 m²) and 272 (3.5%) severely reduced renal function (<30 mL/min/1.73 m²). CHA2DS2-VASc and HAS-BLED scores values increased across eGFR strata (p<0.0001). Among patients qualifying for oral anticoagulant (OAC) therapy, those with severely impaired renal function were less often prescribed with any OAC (79.8%, p<0.0001), more likely with vitamin K antagonist (62.9%) than non-vitamin K antagonist oral anticoagulants (16.9%) (p<0.0001). At 1-year follow-up the rates of any thromboembolic event (TE)/acute coronary syndrome (ACS)/cardiovascular (CV) death progressively increased with worsening renal function, up to 20.7% in patients with severe dysfunction (p<0.0001). Rates of CV death and all-cause death were higher in severe renal dysfunction (16.9% and 21.3%; p<0.0001). Cox regression analysis (adjusted for known predictors) showed that eGFR < 30 mL/min/1.73 m², compared to normal renal function was associated with an increased risk of all the adverse outcomes (Table). eGFR decrease by 10 mL/min/1.73 m² was associated with increased risks (Table).

Conclusions: In AF patients, impaired renal function at baseline is associated with a progressive increase in the risk of major adverse outcomes during follow up. Severe renal dysfunction is an independent predictor of all the adverse outcomes.

<table>
<thead>
<tr>
<th>Any TE/ACS/CV Death</th>
<th>CV Death</th>
<th>All-Cause Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR (95% CI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>eGFR ≥90 (ref.)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>eGFR 60-89</td>
<td>0.99</td>
<td>0.81</td>
</tr>
<tr>
<td>eGFR 30-50</td>
<td>1.12</td>
<td>1.00</td>
</tr>
<tr>
<td>eGFR &lt;30</td>
<td>2.47</td>
<td>2.73</td>
</tr>
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ACS= Acute coronary syndrome; CI= Confidence interval; CV= Cardiovascular; eGFR= estimated Glomerular Filtration Rate; HR= Hazard ratio; TE= Thromboembolic event.
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>eGFR 60-89</td>
<td>0.99 (0.67-1.46)</td>
<td>0.81 (0.44-1.51)</td>
<td>0.74 (0.47-1.19)</td>
</tr>
<tr>
<td>eGFR 30-50</td>
<td>1.12 (0.74-1.69)</td>
<td>1.00 (0.53-1.89)</td>
<td>0.95 (0.59-1.54)</td>
</tr>
<tr>
<td>eGFR &lt;30</td>
<td>2.47 (1.52-3.99)</td>
<td>2.73 (1.36-5.49)</td>
<td>2.16 (1.25-3.72)</td>
</tr>
<tr>
<td>eGFR (by 10 mL/min/1.73 m² decrease)</td>
<td>1.11 (1.05-1.17)</td>
<td>1.18 (1.10-1.27)</td>
<td>1.11 (1.03-1.18)</td>
</tr>
</tbody>
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