Abstract: P3472

Modifications of renal function in atrial fibrillation patients treated with different oral anticoagulants: a multicentre cohort study

Authors:
D. Pastori¹, G.Y.H. Lip², A. Sciacqua³, F. Perticone³, F. Melillo⁴, C. Godino⁴, R. Marcucci⁵, M. Berteotti⁵, F. Violi¹, P. Piglatelli¹, ¹Sapienza University of Rome, Department of Internal Medicine and Medical Specialties - Rome - Italy, ²University of Liverpool - Liverpool - United Kingdom, ³Magna Graecia University of Catanzaro - Catanzaro - Italy, ⁴San Raffaele Hospital - Milan - Italy, ⁵University of Florence - Florence - Italy.

Topic(s):
Anticoagulants

Citation:
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Background: A decline of estimated glomerular filtration rate (eGFR) has been described in atrial fibrillation (AF) patients on Vitamin K antagonists (VKAs). Few real-world data on the modifications of eGFR in AF patients treated with non-vitamin K antagonist oral anticoagulants (NOACs) do exist.

Purpose: To evaluate changes of renal function in AF patients treated with VKAs or NOACs.

Methods: Multicentre prospective cohort study including 1,667 patients with non-valvular AF from 5 clinical centres of Internal Medicine and Cardiology in Italy.

Renal endpoints were: 1) median annual decline of eGFR; 2) transition to eGFR <50 ml/min/1.73 m²; 3) eGFR class worsening according to KDIGO 2012 classification. The eGFR was assessed by the CKD-EPI formula at baseline and during follow-up.

Results: Median age was 73.7±9.1 years and 43.3% were women. 743 patients were on VKAs and 924 on NOACs (Dabigatran, Rivaroxaban e Apixaban). Median annual eGFR decline was −2.11 (Interquartile Range [IQR] −5.68/−0.62) in patients on VKAs, −0.27 [IQR −9.00/4.54] with Dabigatran (p<0.001 vs. VKAs), −1.21 [IQR −9.98/4.02] with Rivaroxaban (p=0.004 vs. VKAs) and −1.32 [IQR −8.73/4.99] with Apixaban (p=0.003, vs. VKAs). Use of Dabigatran and Apixaban was associated to a lower transition to eGFR <50 ml/min/1.73 m², compared to VKAs: adjusted Odds Ratio (aOR) 0.492, 95% Confidence Interval (CI) 0.298–0.813, p=0.006 for Dabigatran; aOR 0.449, 95% CI 0.276–0.728, p=0.001 for Apixaban). Regarding the eGFR class worsening, Dabigatran (aOR 0.70, 95% CI 0.503–0.975, p=0.035), Rivaroxaban (aOR 0.591, 95% CI 0.423–0.825, p=0.002), and Apixaban (aOR 0.591, 95% CI 0.429–0.815, p=0.001) were all associated to a lower rate of eGFR class worsening compared to VKAs.

Conclusions: In this prospective multicentre cohort study, NOACs use was associated with a lower decline of renal function compared to VKAs. Patients on Dabigatran showed the lowest annual rate of eGFR decline and those on Apixaban and Rivaroxaban a lower eGFR class worsening.
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1 Sapienza University of Rome, Department of Internal Medicine and Medical Specialties - Rome - Italy, 2 University of Liverpool - Liverpool - United Kingdom, 3 Magna Graecia University of Catanzaro - Catanzaro - Italy, 4 San Raffaele Hospital - Milan - Italy, 5 University of Florence - Florence - Italy

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Forest plot

<table>
<thead>
<tr>
<th>Drug</th>
<th>Odds Ratio</th>
<th>95% CI</th>
<th>p value (vs. VKA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dabigatran</td>
<td>0.701</td>
<td>0.527–0.933</td>
<td>0.015</td>
</tr>
<tr>
<td>Rivaroxaban</td>
<td>0.720</td>
<td>0.568–0.990</td>
<td>0.042</td>
</tr>
<tr>
<td>Apixaban</td>
<td>0.767</td>
<td>0.587–1.003</td>
<td>0.053</td>
</tr>
</tbody>
</table>

Dabigatran | 0.492      | 0.298–0.813     | 0.006             |
| Rivaroxaban| 0.658      | 0.419–1.054     | 0.081             |
| Apixaban   | 0.440      | 0.276–0.728     | 0.001             |

Dabigatran | 0.700      | 0.503–0.975     | 0.035             |
| Rivaroxaban| 0.591      | 0.423–0.825     | 0.002             |
| Apixaban   | 0.591      | 0.429–0.815     | 0.001             |