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Anticoagulation in patients with end-stage kidney disease and atrial fibrillation: a national population-based study

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Objectives : The prevalence of atrial fibrillation (AF) in patients with end-stage kidney disease (ESKD) is high and increasing, however, evidence is insufficient and conflicting regarding oral anticoagulant (OAC) use in these patients.
Methods : This retrospective cohort study included patients in the Korea National Health Insurance System diagnosed with AF after ESKD onset from January 2007 to December 2017. The primary outcome was all-cause death. Secondary outcomes were ischemic stroke, hospitalization for major bleeding, and major adverse cardiovascular event (MACE). Outcomes were compared between OAC users group and nonusers using 6-month landmark analysis and 1: 3 propensity score matching.
Results : Among patients with ESKD and AF, the number of prescribed OACs increased 2.3-fold from 2012 (n=3,579) to 2018 (n=8,341) and the proportion prescribed direct OACs increased steadily from 2012 (0%) to 2018 (51.4%). After propensity score matching, OAC users had lower risk of all-cause death (hazard ratio [HR] 0.67, 95% confidence interval [CI] 0.55–0.81), ischemic stroke (HR 0.61, 95% CI 0.41–0.89), and MACE (HR 0.70, 95% CI 0.55–0.90) no increased risk of hospitalization for major bleeding (HR 0.99, 95% CI 0.72–1.35), compared to OAC nonusers. Unlike warfarin, direct OACs were associated with a reduced risk of all-cause death and hospitalization of major bleeding.
Conclusions : In patients with ESKD and AF, OACs were associated with reduced all-cause death, ischemic stroke, and MACE.

figure 1.jpg

Figure

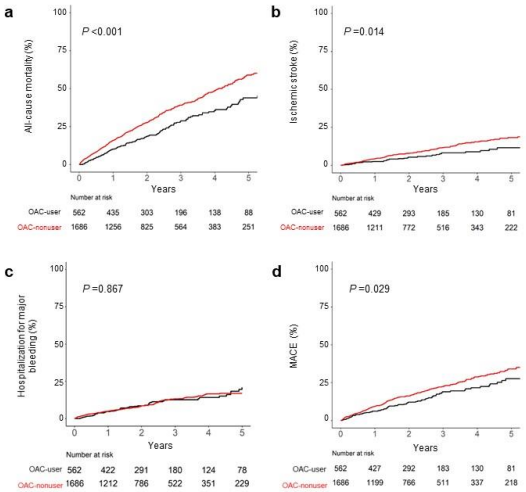
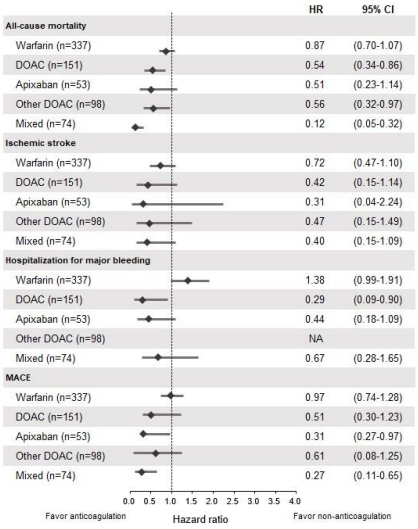


figure 1.jpg

Figure


HR
95% CI
All-cause mortality
Warfarin (n=337) 0.87 (0.70-1.07)
DOAC (n=151) 0.54 (0.34-0.86)
Apixaban (n=53) 0.51 (0.23-1.14)
Other DOAC (n=98) 0.56 (0.32-0.97)
Mixed (n=74) 0.12 (0.05-0.32)
Ischemic stroke
Warfarin (n=337) 0.72 (0.47-1.10)
DOAC (n=151) 0.42 (0.15-1.14)
Apixaban (n=53) 0.31 (0.04-2.24)
Other DOAC (n=98) 0.47 (0.15-1.49)
Mixed (n=74) 0.40 (0.15-1.09)
Hospitalization for major bleeding
Warfarin (n=337) 1.38 (0.99-1.91)
DOAC (n=151) 0.29 (0.09-0.90)
Apixaban (n=53) 0.44 (0.18-1.09)
Other DOAC (n=98) NA
Mixed (n=74) 0.67 (0.28-1.65)
MACE
Warfarin (n=337) 0.97 (0.74-1.28)
DOAC (n=151) 0.51 (0.30-1.23)
Apixaban (n=53) 0.31 (0.27-0.97)
Other DOAC (n=98) 0.61 (0.08-1.25)
Mixed (n=74) 0.27 (0.11-0.65)
0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0
Favor anticoagulation
Hazard ratio
Favor non-anticoagulation