

1. Effect of Anticoagulation in Endstage Renal Failure Patients With Atrial Fibrillation

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Body

Background: AF is more common in patients with end-stage renal disease (ESRD) on hemodialysis than in the general population with prevalence of 11-13%. Anticoagulation is associated with a reduction in the incidence of ischemic stroke in patients with AF. However, with abnormal homeostasis, patients with ESRD have 1.5 fold increase in stroke and 2 fold increase in bleeding risks. While the American Heart Association/American College of Cardiology guideline recommends anticoagulation in patients with ESRD and AF, the European Cardiovascular Society guideline emphasizes the lack of evidence for such a recommendation, and the Kidney Disease: Improving Global Outcomes guideline recommends against the use of warfarin in such situations.

We aim to evaluate the efficacy of anti-thrombotic treatments in patients with ESRD and AF.

Methods: 266 patients with AF and ESRD on haemodialysis from 2009 to 2021 were included in study, 63% males. Mean follow-up duration of 7.10 ± 3.65 years. The clinical end point was occurrence of ischemic stroke, intracranial haemorrhage (ICH) with concomitant imaging studies of the brain, including computed tomography or magnetic resonance imaging. Major bleeding was defined as bleeding from any site requiring hospitalization or blood transfusion. Continuous variables were compared by Student t tests and categorical variables compared by use of the Fisher exact test. $P < 0.05$ was denoted as statistical significant.

Results: Mean age 71.65 ± 8.97 and 70.27 ± 7.68 years in female and male patients respectively. Patients with hypertension 99%, diabetes mellitus 76%, ischaemic heart disease 58%, peripheral vascular disease 27%, previous stroke 24%, smoking 34%. Left ventricular ejection fraction 51.71 ± 10.21 and $45.15 \pm 13.29\%$ in female and male patients respectively. Mean CHA₂DS₂-VASc score 5.16 ± 1.4 , HASBLED score 2.82 ± 0.78 . 193 patients were on anti-platelet agent, 33 anti-coagulation and 40 no anti-thrombotic treatment. 21 major bleedings occurred, 26 cerebral infarcts, 5 ICH and 108 deaths. There was no significant difference in cerebral infarcts, ICH or death between anti-platelet and anti-coagulation groups but anti-coagulation had significantly higher bleeding events ($p=0.007$)

Conclusion: There was no significant difference in stroke or mortality between anticoagulation and anti-platelet treatments in patients with ESRD and AF. Anti-coagulation had significantly higher bleeding events.

Clinical Implications: decision regarding anticoagulation in ESRF with AF should be shared decision with patients, with careful consideration of benefits and bleeding risks.