



ARC BITE

Brokering Innovation Through Evidence

What is the optimal blood pressure level for patients with atrial fibrillation treated with direct oral anticoagulants?



Results

Systolic blood pressure values below 161mmHg are associated higher all-cause mortality, but lower event risk in patients with AF on direct oral anticoagulant therapy. The nadir systolic BP for lowest

event rate was 120mmHg, for lowest cardiovascular mortality was 130mmHg and for lowest all-cause mortality was 160mmHg.

Who needs to know?

All primary and secondary care clinicians



What did we do?

Systolic blood pressure was measured in 9,051 primary care patients in England on direct oral anticoagulants for atrial fibrillation with post-initiation BP levels available within the Clinical Practice Research Datalink (CPRD). The incidence rate for the primary outcome of the first recorded event (defined as a diagnosis of first stroke, recurrent stroke, myocardial infarction, symptomatic intracranial bleed or significant gastrointestinal bleed) and of secondary outcomes all-cause mortality and cardiovascular mortality were calculated by post-initiation BP groups.

What we found and what does this mean?

This is the first study to our knowledge to provide data on the relationship between systolic blood pressure post direct oral anticoagulant initiation in patients with atrial fibrillation and clinical outcomes. The main finding of this study is that blood pressure values below 161mmHg were

associated with higher all-cause mortality risk but lower event risk. The nadir systolic blood pressure for lowest event rate was 120mmHg, for lowest cardiovascular mortality was 130mmHg and for lowest all-cause mortality was 160mmHg.

How did we involve people?

The study questions were previously established as key questions relevant to patients and primary as well as secondary care physicians. This project included stakeholders from the Leicester Diabetes Centre, Cardiology and Stroke Medicine. These relationships have provided a foundation for future collaborative projects.

What next?

This study demonstrates a need for a prospective interventional study of blood pressure control after initiation of anticoagulation.

What is NIHR ARC EM?

NIHR Applied Research Collaborations (ARCs) support applied health and care research that responds to, and meets, the needs of local populations and local health and care systems. We do this by working collaboratively with our partners and patient groups to bring the best applied health and care evidence into practice.

Evidence

Jatinder S. Minhas, Briana Coles, Amit K. Mistri, David J. Eveson, Shazia T. Hussain, John F. Potter, Kamlesh Khunti, Thompson G Robinson. What is the optimal blood pressure level for patients with atrial fibrillation treated with direct oral anticoagulants?. *Journal of Hypertension*: May 20, 2020 - Volume Publish Ahead of Print - Issue - doi: 10.1097/HJH.0000000000002487