


# Heartbeat: the global burden of atrial fibrillation and ensuring anticoagulation persistence

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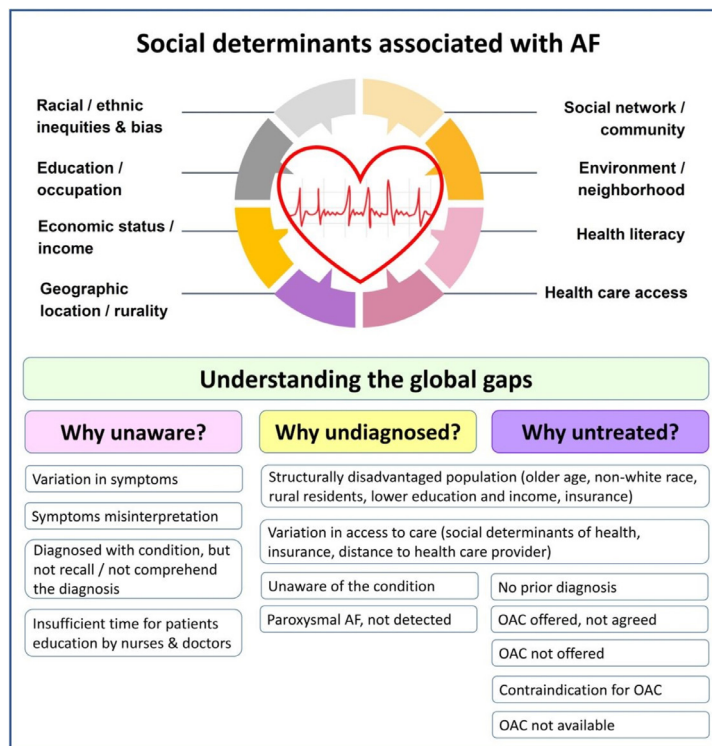
Atrial fibrillation (AF) is the most common sustained arrhythmia, with an increasing worldwide prevalence related to a progressively ageing population. Most of the worldwide AF burden is concentrated in low-income and middle-income countries, with scanty information about local prevalence rates and determinants of AF burden. In this issue of *Heart*, Du *et al*<sup>1</sup> report a community-based survey of 47 841 adults (age  $\geq 45$  years) conducted in seven geographic regions of China between 2014 and 2016. The weighted AF prevalence, defined by either ECG detection or self-report, was estimated to be 1.8% (95% CI 1.7% to 1.9%) after accounting for sampling weights, non-response, and age and sex distribution of the population. However, AF prevalence varied from 0.9% to 2.4% across geographical regions, with an estimated total number of people in AF in excess of 7.9 (95% CI 7.4 to 8.4) million, which is higher than previously reported in China. Patient awareness of AF was low (35.8%), with lower levels of awareness associated with older age, male sex, rural residency, lower education level and lack of a stable occupation. Large treatment gaps were observed: among the adults with non-valvular AF and high CHA<sub>2</sub>DS<sub>2</sub>-VASc scores ( $\geq 2$  men or  $\geq 3$  women), oral anticoagulation (OAC) therapy was used in only 6.0%. The authors conclude that large-scale efforts are urgently needed to reduce the adverse consequences of the high and increasing prevalence of AF in China.

In a companion editorial, Kornej *et al*<sup>2</sup> comment that publications related to AF are not representative of the global distribution of the burden of the disease, since most of the literature describing the epidemiology of AF is from a small percentage of the world's population, predominantly in high-income countries. The current study from China highlights the importance of social determinants of health in AF epidemiology, including residential

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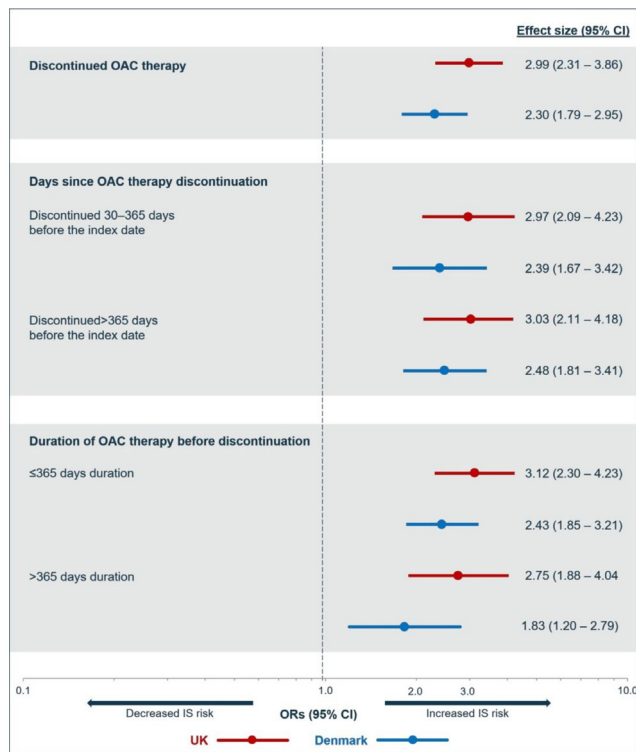
**Figure 1** Role of social determinants understanding global gaps in atrial fibrillation. The figure illustrates selected social determinants of health in atrial fibrillation (AF) relevant to global challenges in our understanding and effectively treating the condition. The figure summarises the global gaps in AF awareness, diagnosis and treatment with oral anticoagulants (OACs).

environment (ie, urban vs rural), availability of care and treatment access, and socioeconomic position, as well as cultural and language aspects (figure 1). They conclude: ‘the current study provides a valuable piece of the puzzle in AF epidemiology in China. We hope the study will prompt additional research and strategies to mitigate social determinants of AF awareness, diagnosis, treatment and ultimately complications worldwide.’

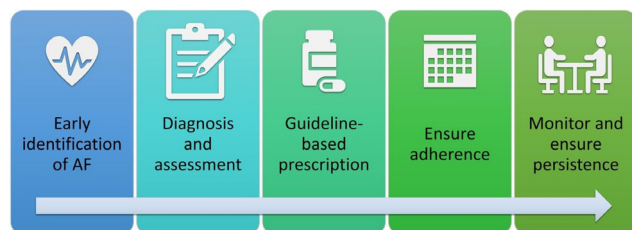
Even when AF is diagnosed and OAC treatment initiated, there is a persistent risk of ischaemic stroke due to discontinuation of OAC therapy. García Rodríguez and colleagues<sup>3</sup> identified 1259 cases of incident stroke among a total AF population of over 118 000 using UK primary care electronic health records and linked registries from the Region of Southern Denmark. In both study cohorts, the risk of ischaemic stroke was about twofold higher with vitamin-K antagonist

discontinuation and four to seven times higher with discontinuation of a non-vitamin K oral anticoagulant medication (figure 2).

In an editorial, Lowres *et al*<sup>4</sup> point out that ‘there are five essential steps to prevent strokes in AF, and all need to occur in order to achieve the full potential of reduction of AF-related stroke’ (figure 3). The study by García Rodríguez *et al*<sup>3</sup> highlights the important of not just diagnosing AF and initiating OAC therapy but in ensuring that patients take the medications as prescribed without missing doses (adherence) and continue to take the medication long-term (persistence). The editorial authors identify a research gap in studies of methods to ensure adherence to OAC therapy and conclude that ‘quality research on maintaining persistence is required to guide effective interventions to achieve the full benefit of thrombolytic therapy in AF, and contribute



**Figure 2** ORs (95% CI) for associations between oral anticoagulant (OAC) discontinuation and risk of ischaemic stroke (IS).

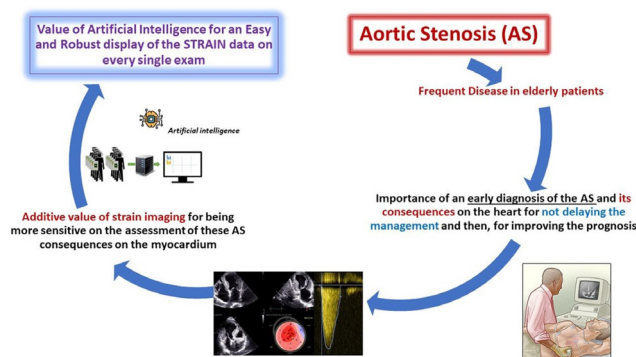


**Figure 3** The complete pathway of stroke risk reduction. AF, atrial fibrillation.

to further reductions in stroke among patients with AF.’

Another interesting study in this issue of *Heart* reports the use of automated echocardiographic global longitudinal strain (GLS) analysis in asymptomatic patients with aortic stenosis.<sup>5</sup> In

a series of 340 patients followed for a median of 24 months, 46 reached the primary endpoint (a composite of cardiac death, heart failure hospitalisation, myocardial infarction or ventricular tachyarrhythmia) and 62 underwent aortic valve surgery. On multivariate



**Figure 4** Logical spiral conducting to advocate for the use of strain and its automated quantification for best managing patients with an aortic stenosis.

analysis, automated GLS was a significant predictor of cardiac events with a 3-year event free survival of 89% in those with a GLS more than 15.1% compared with 76% in those with a lower GLS ( $p=0.002$ ). In an editorial, Donal *et al*<sup>6</sup> suggest that more wide-spread use of automated GLS measurements will help identify subclinical myocardial dysfunction in adults with aortic stenosis, as well as in patients with other types of myocardial disease (figure 4).

The *Education in Heart* article<sup>7</sup> in this issue summarises the use of antithrombotic drug combinations both before and after percutaneous coronary interventions, including management of high bleeding risk patients.

The *Cardiology of Focus* article<sup>8</sup> in this issue—aptly titled ‘if not now, when?’—points out that the focus on cardiologists’ psychological well-being during the COVID-19 pandemic ‘has started a much-needed conversation about supporting the mental health of our workforce.’ ‘This model of early initiation, internal support networks and team reviews after tough situations, as well as rapid access to local mental health services is backed by a strong evidence base and has been shown to protect staff in the short-term and long-term.’ The hope is that the approaches sparked by the stresses of the pandemic ‘may provide a long-term approach to manage moral injury, acknowledge challenges and improve the psychological health of our colleagues for years to come.’

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