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Atrial fibrillation:

NICE 2021 update and the focus on anticoagulation

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INTRODUCTION

The National Institute for Health and Care Excellence (NICE) released an updated atrial fibrillation (AF) guideline in April 2021.[1] This article provides an overview of the key changes relevant to primary care, which are also covered in RCGP Essential Knowledge Updates (EKU) e-learning. It focuses on stroke and bleeding risk assessment, choice of anticoagulation, and advice on remote monitoring and AF detection.

ATRIAL FIBRILLATION DIAGNOSIS

Diagnosis of AF can be challenging as patients may be asymptomatic or have intermittent or non-specific symptoms and signs. For example, less than half of people with AF have palpitations. This may be of particular concern during the COVID-19 pandemic, with less opportunistic detection of AF and altered patterns of patients accessing health care. A Danish registry study reported a 47% decrease in the incidence of newly diagnosed AF between the first 3 months of 2020 compared with 2019.[2]

Although the sensitivity of manual pulse palpation to exclude permanent AF is good (93–100%), the positive predictive value of an irregular pulse is between 8–23%.[3] The value of opportunistic screening for AF via pulse palpation is also uncertain, even among high-risk populations.[4]

The emphasis remains on using a 12-lead electrocardiogram (ECG) to diagnose AF. However, patients with intermittent symptoms may need ambulatory monitoring to detect paroxysmal AF. A variety of monitors are now available, including the more traditional external Holter-type devices, newer 'patch' monitors that can record for up to 2 weeks while allowing all activities of daily living with the device on, or event recorders, which are patient activated. Feasibility studies suggest many patients might be able to fit ambulatory monitors themselves at home and prefer to do so. This could enable more remote assessment, which may be particularly helpful during the COVID-19 pandemic or in patients with poor mobility. The type of device should reflect the frequency and duration of symptoms. Extended monitoring may only be available via referral to secondary care but should be considered if there is a high index of suspicion for AF and symptoms are unlikely to be captured on a 24-hour monitor. Where available, diagnostic hubs or rapid referral arrhythmia clinics may improve access to extended monitoring, but evaluations of their clinical and cost-effectiveness are limited to date.[5]

A range of further devices are publicly available with the potential to diagnose AF, including the AliveCor Kardia and Apple iWatch. Subsequent to the full AF guideline, NICE has published a technology appraisal supporting the use of Alivecor Kardia for diagnosis of AF in patients with suspected paroxysmal AF. Such devices should be used in conjunction with a confirmatory ECG if possible but can be helpful in capturing people with infrequent symptoms.[6]

An echocardiogram is not required in all new cases of AF, but can be helpful if there is suspected valve disease (for example, a new murmur), evidence of heart failure of left ventricular systolic dysfunction, or in stroke risk classification.

STROKE AND BLEEDING RISK SCORES

NICE continues to recommend using the CHA_2DS_2VASc tool for stroke risk prediction. A score of 2 or more is considered high risk and anticoagulation should be offered, unless there is a contraindication. Absolute contraindications to anticoagulation are rare but include a recent major haemorrhage or a significant clotting disorder. In such cases, a left atrial appendage occlusion device may be considered via secondary care.

Bleeding risk scores can help to identify those at higher risk to consider potential interventions. They are not intended to

Table 1. The ORBIT score and its interpretation[a]

Risk factor	Points
Age ≥75 years	1
eGFR <60 mL/min/1.73 m^2	1
Haemoglobin (<13 g/dL for males or <12 g/dL for females)	2
Bleeding history (previous intracranial bleed, haemorrhagic stroke, or gastrointestinal bleed)	2
Treatment with antiplatelet agents	1

ORBIT score	Bleeding risk
0–2	Low risk 2.4 bleeds per 100 patient-years
3	Medium risk 4.7 bleeds per 100 patient-years
≥4	High risk 8.1 bleeds per 100 patient-years

[a]Calculate the ORBIT score based on a patient's risk factors in the left-hand column and the corresponding score. Use this to categorise their bleeding risk as low, medium, or high. eGFR = estimated glomerular filtration rate.

identify patients who should not receive anticoagulation. A significant change is that NICE now recommends clinicians use the ORBIT score (Table 1) instead of HAS-BLED. This change was informed by head-to-head comparisons, which identified that the ORBIT score may be better at identifying those who are truly at low risk of bleeding.[7] This result has not been replicated in all studies and both risk scores only have modest predictive ability.[8] There is significant crossover between the two scores, with age, renal disease, and use of antiplatelets included in both. HAS-BLED may offer advantages in helping clinicians consider a wider range of reversible bleeding risk factors, such as poorly controlled hypertension or alcohol use.

CHOICE OF ANTICOAGULANT

Another key change is that NICE now recommends direct oral anticoagulants (DOACs) in preference to vitamin K antagonists, such as warfarin. Initial randomised trial data demonstrated the DOACs were at least equivalent to warfarin in terms of stroke prevention, and with a lower risk of major haemorrhage. Subsequent analyses have demonstrated that the stroke risk reduction is in fact greater for DOACs compared with warfarin. For example, a network meta-analysis reported the odds ratio for stroke or systemic embolism for apixaban 5 mg b.d. compared with warfarin with international normalised ratio (INR) 2.0–3.0 was 0.79 (95% confidence interval [CI] = 0.66 to 0.94).[9] The stroke risk reduction for patients taking warfarin also relies on a stable INR to achieve a high proportion of 'time in therapeutic window'. NICE now goes as far as to suggest people established on warfarin should be invited to discuss switching to a DOAC. Historically, more than a third of people with AF were not prescribed an anticoagulant, with improvements in treatment a key aim of the NHS Long Term Plan. The increasing availability of DOACs may help in this area as well as reducing variation in care and improving patient outcomes.

Initially, NICE had limited their recommendation to the use of apixaban and dabigatran. However, there is a lack of head-to-head comparisons between DOACs and so, following consultation, the final guideline allows clinicians to decide on a DOAC most appropriate for their individual patient, taking into account local guidance. Patient factors to consider include the need for a once-daily medication, the need for a dosette box, and comorbid disease, for example, renal disease. Key exclusions for DOAC treatment specific to AF include moderate-to-severe mitral valve disease and rheumatic valve disease and metallic valves, in part because these patients have largely been excluded from clinical trials of DOACs to date.

RATE VERSUS RHYTHM CONTROL

NICE recommends rate control treatment first-line for most people with AF, using either a beta-blocker or rate-limiting calcium channel blocker. Calcium channel blockers should be avoided in people with heart failure. Indications for rhythm control include new-onset AF within the past 48 hours, AF with haemodynamic instability, or persistent symptoms despite adequate rate control.

Most studies comparing rate versus rhythm control have reported no significant difference in outcomes. However, a 2020 open, blinded-outcome trial randomised 2789 people with AF diagnosed in the past year and comorbid cardiovascular disease to either usual care or rhythm control with antiarrhythmic drugs or ablation.[10] They reported a 20% reduction in the primary outcome of death, stoke, or serious adverse events in the rhythm control group at 5 years' follow-up (hazard ratio [HR] 0.79, 95% CI = 0.66 to 0.94).[10] While these results suggests some patients may benefit from early rhythm control intervention, a high proportion of the included patients were asymptomatic or in sinus rhythm and all had relatively new-onset AF. It is yet to be established how reproducible these results will be outside of a trial setting and NICE has not changed its guidance on the basis of this study.

ABC APPROACH

There is a growing appreciation that AF is

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a marker of vascular risk, rather than a stroke risk factor alone. NICE recommends clinicians offer a *'personalised package of care and information'* to patients, including advice on symptom control, psychological support if required, and a holistic approach to assess stroke risk, including blood pressure control and anticoagulation.[1] There is evidence that suggests all-cause death or hospitalisation for patients with AF can be improved by focusing on an 'ABC' approach to care: Avoiding stroke (A) with anticoagulation, Better symptom management (B) via close patient review, and Comorbidity risk optimisation (C), considering factors such as body weight, blood pressure, interventions for sleep apnoea, diabetes, and heart failure.[11]

CONCLUSIONS

Key changes in the new NICE guideline support a move to DOACs as the first-line anticoagulant for most patients, using the ORBIT tool for bleeding risk assessment, and taking a more holistic view of cardiovascular and stroke risk in patients with AF. GPs are well placed to deliver such interventions for most patients but should aim to identify people with poorly controlled symptoms on rate control treatment or those with comorbid disease, such as heart failure, who may benefit from referral to secondary care.

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Provenance

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Competing interests

Thomas Round is Associate Editor for the *BJGP*. Nicholas R Jones is a writer for RCGP Essential Knowledge Updates (EKU) e-learning and wrote the EKU 2021.3 module on Atrial Fibrillation. Thomas Round is clinical lead for the EKU programme.

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