Implications of the 2021 National Institute for Health and Care Excellence atrial fibrillation guidelines

In 2021 the National Institute for Health and Care Excellence updated its guidance for diagnosing and managing atrial fibrillation. This editorial summarises the key changes made in these guidelines and discusses their implementation in UK clinical practice.

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Introduction

The National Institute for Health and Care Excellence provides guidelines that appraise and distil available evidence regarding common conditions. Where National Institute for Health and Care Excellence differs from other bodies, such as the European Society of Cardiology, is that its guidance balances evidence-based medicine and expert opinion with the cost-effective delivery of finite healthcare resources. Atrial fibrillation presents a significant public health challenge, with a prevalence of over 3% in adults, and is a major cause of stroke-related morbidity and mortality (Adderley et al, 2019).

In 2021, the National Institute for Health and Care Excellence updated its guidance for the diagnosis and management of atrial fibrillation, with several key divergences from its previous guidance. This editorial reviews these changes and discusses the implications for the doctor treating a patient with atrial fibrillation.

Detection and diagnosis of atrial fibrillation

The National Institute for Health and Care Excellence (2021a) recommends that manual pulse palpation is performed in patients suspected of having atrial fibrillation. If an irregular pulse is detected, the diagnosis of atrial fibrillation should be confirmed with a 12-lead electrocardiogram. Paroxysmal atrial fibrillation should be diagnosed with ambulatory electrocardiogram monitoring. The guidance specifies that there is currently insufficient evidence to support lead-I electrocardiogram technology (such as a smart-watch recording) replacing either manual pulse palpation as a screening test or 12-lead electrocardiogram recording as the diagnostic test for atrial fibrillation. The recommendations are undoubtedly cost-effective: pulse palpation and 12-lead electrocardiogram recording have a low cost and are firmly embedded in the healthcare system. Lead-I electrocardiogram devices are comparatively expensive and are new entities; in a condition such as atrial fibrillation, which affects 9% of adults over the age of 80 years (Nantsupawat et al, 2013), the implementation of new technologies that require a degree of digital know-how may prove difficult.

These recommendations have raised concerns among patients and clinicians. The guidelines were published well over a year into the COVID-19 pandemic, which has shifted many outpatient appointments to either telephone or video software consultations. As of March 2021, 54% of primary care appointments were remote (Royal College of General Practitioners, 2021), which precludes the opportunistic pulse palpation that could be performed when facing a patient in clinic. Thus, diagnoses of atrial fibrillation could be missed with remote consultations.

Although seen as inferior to 12-lead electrocardiogram, lead-I devices can have diagnostic utility in the detection of atrial fibrillation, as found by Rajakariar et al (2020). These devices could prove particularly useful in detecting paroxysmal atrial fibrillation. Importantly, the European Society of Cardiology (Hindricks et al, 2020) recommends that a diagnosis of atrial fibrillation can be made with a single lead electrocardiogram recording of 30 seconds or more. Incorporating use of lead-I electrocardiogram recording into guidelines may prove useful, as a significant proportion of the population has access to smartphone technology.

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A randomised controlled trial by Reed et al (2019) found that lead-I electrocardiogram monitoring, used in addition to standard diagnostic methods, increased the detection of symptomatic arrhythmias by more than five-fold compared with standard methods.

Assessing bleeding risk

The National Institute for Health and Care Excellence now recommend using the ORBIT score to assess risk of bleeding in anticoagulated patients with atrial fibrillation. This estimates an absolute risk of bleeding with greater accuracy than other scoring systems such as HAS-BLED or ATRIA (O'Brien et al, 2015). Moving to a tool that provides an absolute risk is important because anticoagulation for atrial fibrillation should still be considered, even in patients at high risk of bleeding. Indeed, the European Society of Cardiology guidance state those at higher risk of bleeding may derive even greater benefit from anticoagulation (Hindricks et al, 2020). Therefore, rather than generating a cut-off value for anticoagulation risk, a calibrated absolute risk provided by ORBIT can be used to support decision making with patients. High-risk patients can be alerted to address risk factors and be vigilant for signs of bleeding, low-risk patients can be reassured and encouraged to adhere to anticoagulation. The updated National Institute for Health and Care Excellence (2021a) guidance includes the use of selective serotonin-reuptake inhibitors as a modifiable bleeding risk factor, an important point when considering the proportion of adults prescribed these medications. The implementation of the ORBIT score may take some time in primary and secondary care: it remains largely unknown to most clinicians. Additionally, in using ORBIT scores clinicians may have to learn to hold more nuanced conversations regarding bleeding risk with patients.

Anticoagulation

The National Institute for Health and Care Excellence advises using a direct-acting oral anticoagulant as the first line in patients with atrial fibrillation, in preference to warfarin. Patients already taking warfarin should be offered a switch to a direct-acting oral anticoagulant. This stems from evidence demonstrating that direct-acting oral anticoagulants are more effective at preventing harm in patients with atrial fibrillation than warfarin (National Institute for Health and Care Excellence, 2021b). The National Institute for Health and Care Excellence does not recommend one direct-acting oral anticoagulant over another; it advises taking an individual patient's clinical needs and preferences into account to select a direct-acting oral anticoagulant. Although direct-acting oral anticoagulants are more expensive than warfarin, the shift to direct-acting oral anticoagulants will reduce the burden on services for monitoring requirements and reduce long-term costs through safer anticoagulation (Perry et al, 2021). Within the next decade patents will begin to expire on existing direct-acting oral anticoagulants, reducing costs further. The diminishing need for international normalised ratio monitoring will also reduce footfall in clinics and surgeries, an important precaution in the COVID-19 era. With their demonstrable non-inferiority to warfarin and higher safety profile, the preference for direct-acting oral anticoagulants is also shared by the European Society of Cardiology guidelines (Hindricks et al, 2020).

An important addition to the National Institute for Health and Care Excellence (2021a) guidance is the recommendation that anticoagulation should not be stopped solely because atrial fibrillation is no longer detectable, including after ablation. While this may seem surprising, it is derived from evidence suggesting that ablation only benefits quality of life and does not reduce incidence of stroke or death (Perry et al, 2021). The National Institute for Health and Care Excellence recommend that, once atrial fibrillation is diagnosed, anticoagulation decisions should be based on risk assessment tools (CHA_2DS_2-VASc and ORBIT) and patient preference, and not detectable presence of atrial fibrillation. The European Society of Cardiology guidance gives a similar recommendation and reiterates the use of ablation as primarily a symptomatic treatment (Hindricks et al, 2020). It must be remembered, however, that the quality of evidence to support these recommendations is very low.

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Key points

- Atrial fibrillation must be diagnosed with a 12-lead electrocardiogram, or an ambulatory electrocardiogram recording if paroxysmal atrial fibrillation is suspected.
- Bleeding risk should be assessed with an ORBIT score, not HAS-BLED.
- Direct-acting oral anticoagulants should be first-line anticoagulation in patients with atrial fibrillation.
- Anticoagulation should not be discontinued merely because atrial fibrillation is no longer present.

Ablation

National Institute for Health and Care Excellence recommend that if catheter ablation of the pulmonary veins is undertaken for atrial fibrillation, radiofrequency point-by-point ablation is the preferred technique as it is the most cost effective, although cryo-balloon may be appropriate in certain patients. While this point may not be applicable to the non-cardiologist's everyday practice, it is an important change in National Institute for Health and Care Excellence guidance regarding rhythm control in patients with atrial fibrillation.

Conclusions

The 2021 National Institute for Health and Care Excellence guidance for atrial fibrillation is well presented and transparent in its review of the evidence and economic modelling. How smoothly the implementation of its new recommendations, such as the ORBIT score, can be achieved remains to be seen. It could be argued that the guidelines fail to fully embrace the tectonic shift occurring in healthcare systems. As facilities for telemedicine develop further and mobile technology continues to improve, clinicians must be able to embrace these changes in the management of chronic conditions and not stick to an 'old ways are the best' approach.

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