Atrial fibrillation: diagnosis and management

Diagnosis

- Perform manual pulse palpation if atrial fibrillation (AF) is suspected
- Perform a 12-lead ECG in people with an irregular pulse, with or without symptoms, to diagnose AF
- If paroxysmal AF is suspected and not detected on ECG, use a 24-hour ambulatory ECG monitor if episodes <24 hours apart or an ambulatory ECG monitor, event recorder or other ECG technology for an appropriate period if episodes >24 hours apart

Assessment

- Assess stroke risk using the person's CHA_2DS_2-VASc score
- Assess bleeding risk using the person's ORBIT score. The ORBIT bleeding risk tool has a higher accuracy in predicting absolute bleeding risk than other tools
- Discuss the results and offer monitoring and support to modify risk factors for bleeding
- Perform transthoracic echocardiography (TTE) if a baseline echocardiogram is important for long-term management, cardioversion is being considered, underlying heart disease is suspected or if refinement of clinical risk stratification for antithrombotic therapy is needed
- Do not routinely perform TTE solely for further stroke risk stratification if anticoagulation has already been agreed
- Perform transoesophageal echocardiography (TOE) if TTE shows an abnormality needing further assessment, or if TTE is technically unsuitable and cardiac abnormalities need to be excluded, or if TOE-guided cardioversion is being considered

Stroke prevention

CHA_2DS_2-VASc ≥ 2
offer oral anticoagulant

CHA_2DS_2-VASc = 1 in men
consider oral anticoagulant

CHA_2DS_2-VASc ≤ 1 in women or
CHA_2DS_2-VASc = 0 in men
do not offer an anticoagulant

Review at age 65 or if the person develops diabetes or cardiovascular comorbidities

Discuss risks and benefits of anticoagulation, including that for most people the benefit of anticoagulation outweighs the bleeding risk.

Direct-acting anticoagulants (DOACs)

- Offer a DOAC as first-choice anticoagulant
- Discuss choice of DOAC, taking into account clinical features, contraindications and the person's preference. Follow guidance in the BNF and the MHRA advice on direct-acting oral anticoagulants
- For people already stable on a vitamin K antagonist, discuss switching at their next routine appointment, taking into account time in therapeutic range (TTR)

Vitamin K antagonists

- Use a vitamin K antagonist if DOACs are contraindicated or not tolerated
- Calculate the person's TTR at each visit. Reassess anticoagulation if poorly controlled (2 INR values >5 or 1 INR value >8 or 2 INR values <1.5 in past 6 months or TTR <65%)
- Take into account and address factors that may contribute to poor control
- Discuss the risks and benefits of alternative stroke prevention strategies with the person

Left atrial appendage occlusion

- If anticoagulation is contraindicated or not tolerated consider left atrial appendage occlusion

- Review anticoagulation at least annually for people taking an anticoagulant and follow the MHRA advice on direct-acting oral anticoagulants
- Review people who are not taking an anticoagulant because of bleeding risk at least annually

Personalised package of care and information
Support with shared decision making and adherence

NICE National Institute for Health and Care Excellence

Published date: April 2021. This is a summary of the advice on diagnosis and management in NICE's guideline on atrial fibrillation. Pages 1 and 3 are new, based on the updated 2021 guidance. Page 2 is taken from the algorithms in the 2014 guideline.

Rate control strategies (non-acute presentation)

Offer rate control as first-line treatment strategy, unless:

- AF has a reversible cause
- the person has heart failure thought to be caused by AF
- the person has new-onset AF
- the person has atrial flutter and their condition is suitable for ablation
- a rhythm control strategy is more suitable based on clinical judgement

→ Offer rhythm control strategy if suitable for first-line treatment

- Offer a standard beta-blocker (not sotalol) or a rate-limiting calcium-channel blocker as initial monotherapy unless the person is sedentary or cannot use other rate-limiting options
- Base drug choice on symptoms, heart rate, comorbidities and preferences
- Consider digoxin monotherapy for non-paroxysmal AF only for people who are sedentary or cannot use other rate-limiting options
- Do not offer amiodarone for long-term rate control
- For people with AF and chronic heart failure follow the recommendations in NICE's guideline on chronic heart failure on beta-blockers and avoiding calcium-channel blockers

If monotherapy does not control symptoms and symptoms are thought to be due to poor ventricular rate control, consider any 2 of the following:

- a beta-blocker
- diltiazem
- digoxin

→

- Consider rhythm control strategy if symptoms are not controlled with rate control
- If ineligible for rhythm control see ablation strategies (page 3)

Rhythm control strategies

Persistent AF

Duration >48 hours

- Not on therapeutic anticoagulants → Consider transoesophageal echocardiography-guided cardioversion and/or therapeutic anticoagulation for at least 3 weeks before cardioversion
- Already on therapeutic anticoagulants → Electrical cardioversion (consider amiodarone therapy 4 weeks before and up to 12 months after electrical cardioversion)

Duration <48 hours, see people presenting acutely with AF on page 3

Paroxysmal AF

Assess the need for drug therapy for long-term rhythm control

Consider a standard beta-blocker (not sotalol)

Consider a 'no drug treatment' or a 'pill-in-the-pocket' strategy for infrequent paroxysms and few symptoms, or symptoms induced by known precipitants

Consider other drugs taking into account comorbidities:

- amiodarone for people with left ventricular impairment or heart failure
- dronedarone in line with NICE's technology appraisal guidance on dronedarone for non-permanent AF

Do not offer class 1c antiarrhythmic drugs such as flecainide or propafenone to people with known ischaemic or structural heart disease

If treatment fails, see ablation strategies (page 3)

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Refer people promptly (within 4 weeks) at any stage if treatment does not control symptoms

Left atrial ablation and pace and ablate strategies

Symptomatic AF and drug treatment unsuccessful, unsuitable or not tolerated

Left atrial ablation

- Consider radiofrequency point-by-point ablation
- If radiofrequency point-by-point ablation is unsuitable, consider cryoballoon ablation or laser balloon ablation
- Consider left atrial catheter ablation before pacing and atrioventricular node ablation for people with paroxysmal AF or heart failure caused by non-permanent AF
- Discuss the risks and benefits and take into account the person's preferences. Explain that ablation is not always effective or long lasting
- If other cardiac surgery is planned, consider carrying out ablation at the same time
- Consider antiarrhythmic drug treatment (see page 2) after ablation and reassess at 3 months

Pace and ablate

- Consider pacing and atrioventricular node ablation for symptomatic permanent AF or left ventricular dysfunction caused by high ventricular rates
- Reassess symptoms and the need for ablation after pacing and optimising drug treatment

People presenting acutely with AF

New onset AF with life-threatening haemodynamic instability

Carry out emergency electrical cardioversion without delaying to achieve anticoagulation

New onset AF without life-threatening haemodynamic instability

If onset <48 hours offer anticoagulation (see below) and either rate or rhythm control

If onset >48 hours or uncertain offer anticoagulation (see below) and rate control

If rhythm control is agreed, consider either pharmacological or electrical cardioversion

If pharmacological cardioversion is agreed, offer:

- a choice of flecainide or amiodarone if no evidence of structural or ischaemic heart disease
- amiodarone if evidence of structural heart disease

If acute decompensated heart failure is suspected, seek senior specialist input on using beta-blockers and do not use calcium-channel blockers

Anticoagulation for acute presentation of AF

In people with new onset AF who are receiving no or subtherapeutic anticoagulation therapy, offer heparin at initial presentation and continue until stroke and bleeding risk are assessed (see page 1)

If onset <48 hours, offer oral anticoagulation if:

- stable sinus rhythm is not successfully restored within the same 48 hours after onset or
- there are factors indicating a high risk of recurrence or
- it is recommended after assessment of stroke and bleeding risks (see page 1)

If onset >48 hours and long-term rhythm control is being considered, delay cardioversion until maintained on therapeutic anticoagulation for at least 3 weeks and offer rate control during this time

If there is uncertainty over the time since onset, offer oral anticoagulation (see page 1)

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Refer people promptly (within 4 weeks) at any stage if treatment does not control symptoms