HEART AND BRAIN

Management and prevention of cardioembolic stroke

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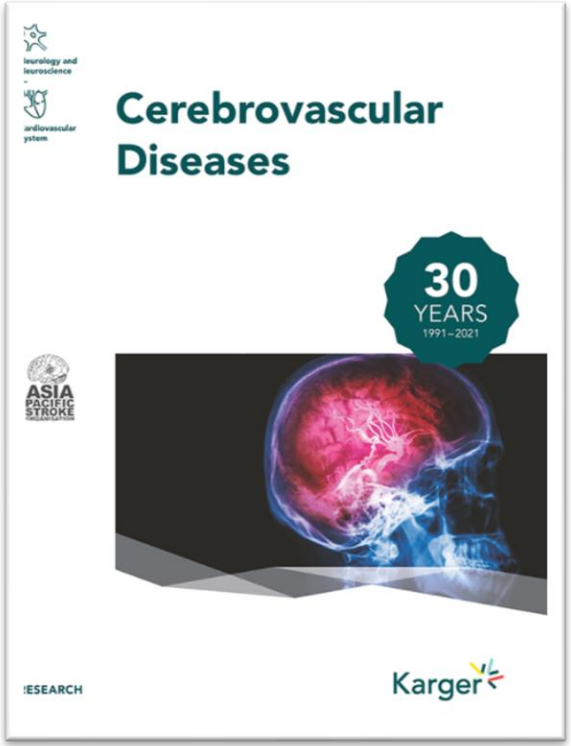
Disclosures

Editor-in-Chief



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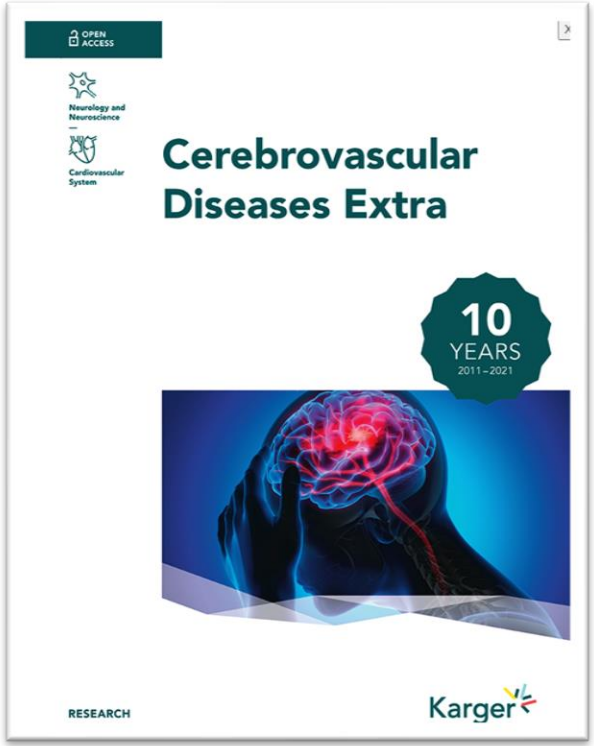

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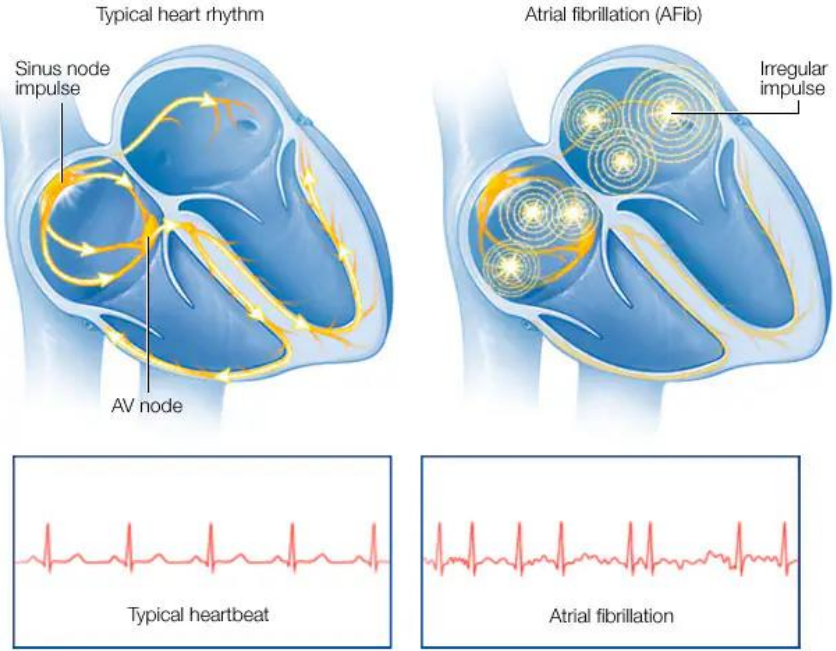
Learning objectives

- *AF is very common* - increasingly in aging populations. ~1 in 3-5 adults (age ≥45 yrs), >25% of acute ischemic strokes (more serious than atherosclerotic strokes)
- *AF is a major CV risk factor (strokes, heart failure, coronary artery disease)* and *risk marker (older age, obesity, hypertension, alcohol, renal impairment, cancer)*
- *Anticoagulation for stroke prevention* - DOAC better than warfarin for convenience, efficacy, and safety. Prevention of ischemic stroke generally outweighs bleeding risks
- *Contrary to longstanding dogma* - early initiation of DOAC (<4 days) prevents early recurrent ischemic stroke without any increase in intracerebral hemorrhage
- *Stepwise approach to AF detection* – 72 hr ECG monitoring preferable; selective use of insertable LOOP recorder due to small increase in detection but uncertain clinical efficacy; heart bug surface monitor is appealing; stroke risk may relate to AF burden
- *No evidence for DOAC in patients with cryptogenic stroke* - where you have a 'hunch' it was due to AF; need to prove there is AF and then DOAC trumps antiplatelet therapy
- *DOAC treatment not perfect* – breakthrough ischemic strokes are common but uncertain how best to change treatment

Key message #1

AF is a cardiovascular risk factor and risk marker

Left atrial enlargement is an early feature
Stroke risk related to other CV factors
Major causes of death are cardiac



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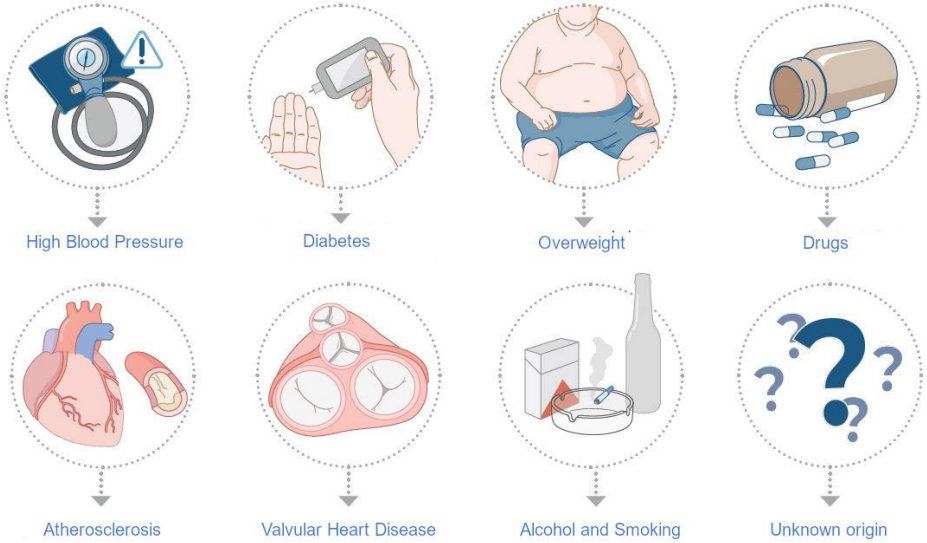
Chronic hypertension leading to small vessel disease in the heart, kidneys and brain



Key message #2

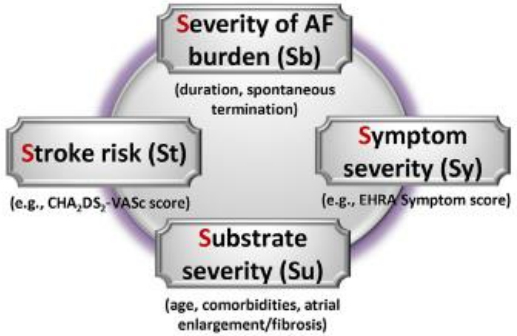
Holistic management of the patient with AF

CC To ABC

Confirm AF

A 12-lead ECG or a rhythm strip showing AF pattern for ≥30 s

Characterise AF (the 4S-AF scheme)



The ABC pathway for integrated care management

'A' Avoid stroke
Optimize stroke prevention

'Atrial fibrillation 3-step'

Step 1
- Identify low risk patients

Step 2
- Offer stroke prevention to patients with one or more risk factors for stroke
- Assess bleeding risk

Step 3
- Decide on OACs (either a DOAC [preferred] or VKA with well-managed TTR)

'B' Better symptom management
Treat symptoms

Patient-centered and symptom-directed decisions on rate or rhythm control

'C' Cardiovascular and other comorbidities
Manage risk factors

- Manage hypertension, heart failure, diabetes mellitus, cardiac ischemia, and sleep apnea
- Lifestyle changes: obesity reduction, regular exercise, and reduction of alcohol and stimulant use
- Patient psychological morbidity
- Consider patient values and preferences

The Lancet Regional Health - Europe 2024;37: 100797
https://doi.org/10.1016/j.lanepe.2023.100797

Key message #3

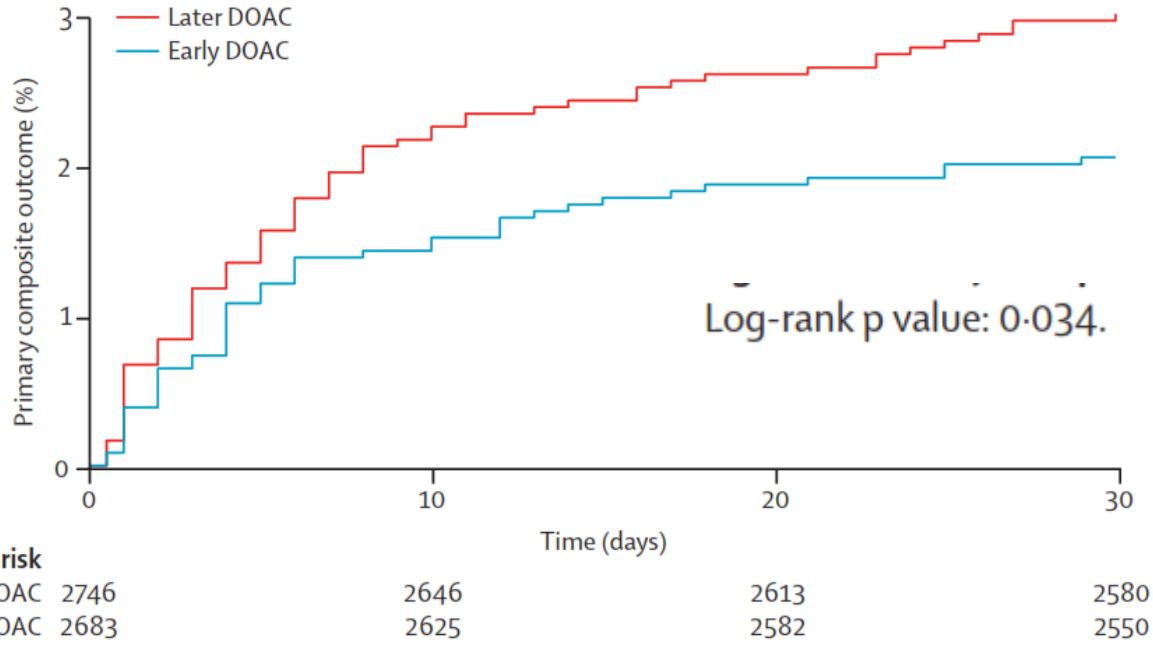
Safe and effective to commence DOAC treatment early after acute ischemic stroke

Collaboration on the optimal timing of anticoagulation after ischaemic stroke and atrial fibrillation: a systematic review and prospective individual participant data meta-analysis of randomised controlled trials (CATALYST)

Hakim-Moulay Dehbi, Urs Fischer*, Signild Åsberg*, Truman J Milling*, Stefanie Abend, Norin Ahmed, Mattia Branca, Lisa A Davis, Stefan T Engelter, Nick Freemantle, Thomas Gattringer, Tatevik Ghukasyan Lakic, Ziad Hijazi, Martin James, Masatoshi Koga, Patrick Lawrence, Robin Lemmens, Gregory Y H Lip, Susan Massingham, Philip S Nash, Amalia Ndoutoumou, Bo Norrving, Georgia Salanti, Nikola Sprigg, Götz Thomalla, Tishok Vanniyasingam, Per Wester, Steven J Warach*, Jonas Oldgren*, Jesse Dawson*, David J Werring**

Lancet 2025; 406: 43–51

Primary outcome:
Recurrent ischemic stroke, undetermined stroke, intracerebral hemorrhage



Key message #4

DOAC treatment is not perfect

Breakthrough cardioembolic stroke

1. 1-2% in clinical trials – likely ≥5% ore more in real world
2. Issues on effectiveness and adherence to DOAC
3. Other stroke mechanisms
4. Problems of prolonged interruption of anticoagulation for operative procedures

Alternation on DOAC treatment in situation of breakthrough strokes

- No evidence of effectiveness of change in dose
- No evidence of effectiveness of change to alternative DOAC
- No evidence of effectiveness of addition of clopidogrel or aspirin

Still problems recognizing AF in the community before stroke occurs