PREVENTING STROKE

Special report editor
Daloni Carlisle
Production editor
Andrew Snowball
Design
Judy Skidmore

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SPECIAL REPORT

ACTION OR CRISIS

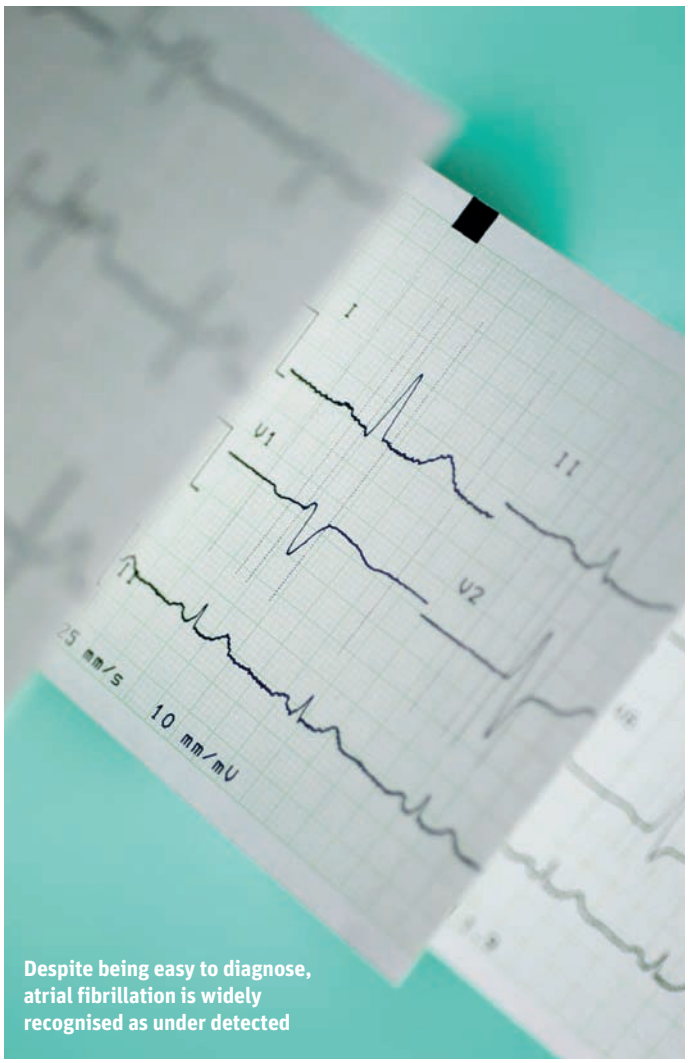
AWARENESS

There is a growing concern that too little is being done for stroke prevention in patients with atrial fibrillation, an at-risk condition that is easier to diagnose than many practitioners realise

When the Department of Health published its National Stroke Strategy in 2007 it contained a 10-point action plan. Number two on the list was prevention of stroke, asking commissioners to consider how effectively local services supported healthier lifestyles and what action was under way to tackle vascular risk, such as hypertension, atrial fibrillation and high cholesterol.

And sure enough, national and local programmes developed by the DH, NHS Improvement, National Institute for Health and Clinical Excellence, cardiac networks, primary care trusts and practice-based commissioners duly set up programmes and developed tools and models for others to use. Awareness of the risk of high cholesterol and high blood pressure as well as the need to lead a healthy lifestyle began to penetrate public awareness.

Mention atrial fibrillation at the school gates and you are likely to draw a blank. Yet AF – the most common heart arrhythmia – increases the risk of stroke five-fold and is thought to cause 15 to 20 per cent of all ischaemic strokes (see fact box, page 24). Despite being easy to diagnose, requiring no more than taking a pulse and an ECG, and despite anticoagulants being highly effective in reducing the risk of stroke, the condition is widely recognised as under diagnosed and under treated.



Despite being easy to diagnose, atrial fibrillation is widely recognised as under detected

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"It is clear that there is an unmet medical need for stroke prevention in atrial fibrillation patients," says professor of cardiovascular medicine Gregory Lip, at the University of Birmingham Centre for Cardiovascular Sciences, City Hospital Birmingham.

"The majority of such strokes are preventable but the under diagnosis and poor management of AF patients, as well as suboptimal use of anticoagulation, and side-effects of current treatments, mean that an unnecessary and heavy burden is placed on patients, their families and carers, as well as our healthcare systems."

There is now growing concern that too little has been done on stroke prevention in AF (abbreviated to SPAF) and that, as a result, the UK and indeed Europe is facing a stroke time bomb.

Action for Stroke Prevention, which represents health experts across Europe, published a report in December 2009, *How Can We Avoid a Stroke Crisis*, which argued that Europe risks a stroke epidemic if actions are

not taken now to slow the rising tide of preventable strokes. The report received the backing of 17 leading European medical and patient organisations.

Part of its argument was about demographics. AF gets more common and the risk of AF-associated stroke increases as people age, and Europe's population is ageing. By 2050, the report predicted, there will be two and a half times as many people with AF as there are now.

Another was about severity and cost. The report pulled together evidence indicating that AF-related strokes are more severe, cause greater disability and have a worse outcome than ischaemic strokes in patients without AF. People who have a stroke caused by AF are more likely to remain in hospital for longer, are less likely to be discharged to their home and are 50 per cent more likely to remain disabled. Their healthcare costs are therefore higher, it said.

ATRIAL FIBRILLATION

- Atrial fibrillation is common and affects over 600,000 patients in England (1.2 per cent) and is a major predisposing factor for stroke
- The annual risk of stroke is five to six times greater in AF patients
- Evidence of under detection and sub-optimal treatment is compelling
- The treatment of AF with Warfarin reduces the risk of stroke by 50-70 per cent
- The "number needed to treat" – NNT – to prevent one stroke is 37
- It is estimated up to 4,500 strokes per year and 3,000 deaths may be preventable through improved services and optimal therapy
- The estimated total cost of maintaining one patient on Warfarin for one year, including monitoring, is £383
- Based on NNT ranging from 25 to 37, the costs of each stroke prevented with Warfarin are in the range £9,500 to £14,000
- Efficiency and productivity are increased through the reduction in inappropriate referrals to secondary care and bed days saved

Source: NHS Evidence Quality and Productivity collection www.evidence.nhs.uk/qualityandproductivity

Risk awareness

In February 2010, the National Audit Office also highlighted stroke prevention as a challenge when it reported on progress in improving stroke services since publication of the National Stroke Strategy.

Even among those people who had experienced a stroke, two in five were not aware of the risks posed by AF, it said.

"Guidance suggests appropriate treatment (anti-coagulation) of all people with recognised atrial fibrillation would prevent around 4,500 strokes, and 3,000 deaths per year, and do so highly cost-effectively," the NAO noted. "NICE recommends treatment with Warfarin, but in 2008 only 24 per cent of stroke patients with atrial fibrillation were discharged from hospital on this treatment."

That is just the patients who have had a stroke, rather than the people who are diagnosed with AF and in whom a first stroke could be prevented. NICE estimates that 46 per cent of patients who should be on Warfarin are not receiving it.

The NICE costing report on the impact of implementing its 2006 clinical guideline on AF says: "A number of studies of routine clinical practice have suggested that prophylaxis is generally underused and that anticoagulation control could be improved."

There is no shortage of either recommendations or tools for putting them into action.

Action for Stroke Prevention makes rather general recommendations about improving patient education and stroke risk assessment, taking new approaches to prevention, facilitating the

Some practice-based commissioning groups are developing screening programmes

'Atrial fibrillation has been the poor relation of medicine for a while now'

exchange of best practice between member states, developing strategies to support adherence to guidelines, and providing equal and adequate administration of therapy for patients with AF.

The NAO recommendations, meanwhile, are more targeted to an NHS audience. Preventing strokes requires a joined-up approach from a range of organisations, it says, to target those at risk and provide them with appropriate treatment, education and information.

It wants strategic health authorities, PCTs and cardiac networks to "develop and implement strategies for managing atrial fibrillation". NICE should review whether the indicators in the Quality and Outcomes Framework for General Practitioners are supporting the delivery of its atrial fibrillation guidance, it says.

Finally, the NAO calls on the DH to include stroke prevention in relevant public health campaigns to ensure that the public and the NHS benefit by preventing more strokes.

All of which has been noted at the top. At the Stroke Public Accounts Committee on 24 February 2010, the DH committed the NHS to an accelerated programme of improvement in stroke services. This is the last year of central money to support the delivery of the Stroke Strategy so there is now a "big push".

Over the next 12 months, the NHS is expected to show significant improvements across the piece, with AF detection and treatment a top priority.

Not a moment too soon, says Matthew Fay, a GP with a special interest in cardiology at the Westcliffe Medical Centre in Shipley, North Bradford. He has worked closely with NHS Improvement's stroke programme and, apart from some pockets of excellence, he is pretty downbeat about the NHS response to SPAF.

"How are primary care and commissioners in PCTs dealing with this?" he asks. "Generally, they have ignored it. That's not particularly their fault. Atrial fibrillation has been the poor relation of medicine for a while now."

Quite why this should be for a condition that is apparently so easy to diagnose and treat is not clear.

"The reasons are complex, to say the least," says Dr Fay.

He identifies a number of themes that general practice, practice-based commissioning consortia and PCTs will need to address:

- diagnosing people with AF
- stratifying both the known cases and newly identified cases of AF for stroke risk
- ensuring that those patients for whom anticoagulation treatment is appropriate receive treatment
- future proofing services in readiness for new anticoagulation drugs that are set to gain approval for use in the NHS in the coming 12 months

'This is the last year of central money for the Stroke Strategy so there is now a big push'

- developing incentives for primary prevention of stroke.

Starting at the top, Dr Fay says there is a sizeable cohort of people with AF who are asymptomatic.

"These are the people we need to try and find," he says.

There are several examples of practice-based commissioning groups developing screening programmes to do this, either opportunistically in a target population as they visit the practice or at flu clinics (see box over page).

AF registers

The next issue is working out who is most at risk of stroke. "As you get older and have other conditions, so the risk of stroke increases," says Dr Fay.

Again there is at least one nationally available tool to help: GRASP-AF, a computerised risk stratification tool free to anyone in the NHS (see box).

Then there is treatment. QOF rewards GPs for producing an AF register, diagnosing patients and treating them but gives equal weight to treating them either with Warfarin or with aspirin.

"But the higher the risk of stroke, the less effective aspirin becomes. So QOF is incentivising putting people on aspirin when it is not really effective," says Dr Fay.

"Warfarin can reduce a person's risk of stroke and death by up to 70 per cent. It's as cheap as chips, costing £360 to

RISK ASSESSMENT TOOL: GRASP-AF

Guidance on risk assessment for stroke prevention in atrial fibrillation, fondly known as GRASP-AF, is an award-winning risk stratification tool developed by clinicians at the West Yorkshire Cardiovascular Network that is now nationally available and free.

Kathryn Griffiths, a GP at York's University Health Centre and primary care lead for the network, says: "We felt that risk stratifying patients with AF should be simple rather than a matter of going through piles of notes."

The tool runs a search on a practice's clinical system to find people with AF, then uses the internationally recognised CHADS2 score to stratify risk. Finally, it produces an Excel spreadsheet with information on all patients.

GRASP-AF has been well tested and is being taken up widely. It is available from NHS Improvement, www.improvement.nhs.uk/stroke

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MORE ON STROKE PREVENTION

The next article in this series of special reports on SPAF, scheduled to appear on 5 August, will examine what works in practice, what has been tried and tested and the costing models, and will examine how stroke care moves from diagnosis to treatment

£380 per person per year. If we were to anticoagulate 75 per cent of people at risk of stroke rather than 45 per cent, we would save money from the number of strokes prevented. We need more people put on Warfarin."

He is supported by the NICE 2006 guidance on AF, which says: "The benefits of thromboprophylaxis in patients with AF are well established in randomised trials, and most guidelines recommend the use of anticoagulation with Warfarin for high risk patients. However, there continues to be wide variation in management."

Indeed there does, says Dr Fay: "The guideline was welcome but I would suggest it was pretty widely ignored. There has been no change in behaviour before and after its publication. QOF data shows that the number of people diagnosed with AF who receive anticoagulation therapy has remained unchanged before and after the guidance was published."

Warfarin is not suitable for every patient but this does not account entirely for the low numbers of patients offered anticoagulation therapy.

"Clinicians are averse to using it and patients also perceive it to be dangerous," says Dr Fay. "But I have never yet met a patient who wishes to have a stroke."

The National Patient Agency has set out recommendations, while decision support for GPs is available as free software, *The Auricle*, which not only helps GPs in their prescribing decisions but also helps them to link to secondary care.

Another commissioning issue is anticoagulation services, which are usually provided in secondary care. Warfarin is effective within a narrow therapeutic range, says Dr Fay.

"As commissioners we should be asking the clinics what per cent of the patients are within the therapeutic range and for what per cent of the time."

It is time for a change – and a change that commissioners can lead, says Dr Fay.

"We are in a situation where all the tools are there, all the treatments are there but we have taken our eye off the ball. Commissioners could get clinicians to focus and become more organised. Yes, there is money to be saved but also there is an enormous amount of suffering that could be avoided by getting this right." ●

Find out more

The Coronary Heart Disease National Service Framework. Progress report 2008.
www.dh.gov.uk
How Can We Avoid a Stroke Crisis?
www.atrialfibrillation.org.uk
Progress in Improving Stroke Care
www.nao.org.uk/
Atrial fibrillation: the management of atrial fibrillation costing report
www.nice.org.uk
www.improvement.nhs.uk/stroke/
www.theauricle.co.uk/auricle/

CASE STUDY: DETECTING PATIENTS WITH AF IN GENERAL PRACTICE

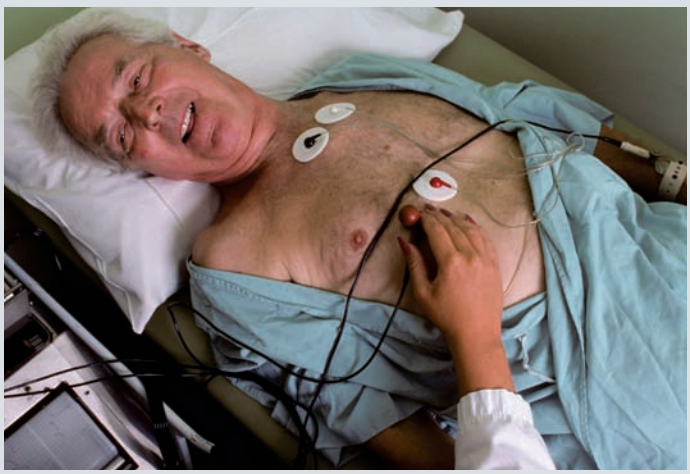
One-third of patients with AF are asymptomatic so the challenge in general practice is to find them. Andreas Wolff, a GP with a special interest in cardiology at the Whinfield Surgery in Darlington, has set up a screening programme.

"We wanted to improve our stroke prevention," he says. "The patients who are over 65 and have AF are among the most at risk so identifying them was a priority."

The practice modelled the programme on the SAFE study carried out in Birmingham, a large scale randomised controlled trial published in 2005 that looked at the effectiveness of screening patients aged over 65 in general practice for AF. It found that opportunistic screening, in which patients are screened when they present to GPs, was most effective.

In brief, doctors and practice nurses took the pulse of patients aged over 65 when they attended the surgery – no-one was called in specially. Patients whose pulse was irregular and who were not already identified as having AF were offered an ECG.

"We used a computer-prompted screening tool," says Dr Wolff. "It flagged up a yellow marker on screen when any of us saw a patient in the target group. In this way we managed to reach 84 per cent of the target population over the course of one year from May 2008."



Over-65s with atrial fibrillation are a priority group for screening

This was higher than the SAFE study, where opportunistic screening reached 70 per cent of the target population. They screened 1,569 patients, 207 (13 per cent) of whom had an irregular pulse and could be at risk of stroke.

After the practice had excluded those they already knew had AF, they offered 130 patients an ECG and 99 took up the offer. This led to diagnosis in 36 patients of previously unknown AF – enough to prevent one stroke.

"It took our prevalence from 1.32 per cent of the practice population to 1.82 per cent," says Dr Wolff.

The generally accepted prevalence rate of AF in general practice is 1.2 per cent – although this is also generally accepted to be an underestimate.

The practice is now working on the next step – turning diagnosis into treatment. This will mean risk stratifying and targeting those at highest risk of stroke with anticoagulation therapy.

"This is still a work in progress," says Dr Wolff. "We have proved a fair bit but still have a way to go."

He hopes the screening programme will be taken up across the county of Durham. Talks are under way to put this in motion but there are a number of barriers.

"GPs are not well incentivised to do this," he says. "The QOF payments are adjusted for prevalence so we are now receiving £1,700 more as a result of the screening but it hardly covers the cost of doing 100 ECGs. There is a case for improving the incentives."

The other is whether GPs and practice nurses are able correctly to interpret ECGs. Dr Wolff is a GPSI but some research shows a major skills gap in general practice. Mant and colleagues noted in 2007 that many primary care professionals cannot accurately detect AF on an ECG, even when they used software to help them interpret data.

They noted: "Diagnosis of atrial fibrillation in the community needs to factor in the reading of electrocardiograms by appropriately trained people."

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