

# When to call in the electrophysiologist

The pumping action of the heart is regulated by the flow of electricity. ANEETA SUNDARARAJ writes on the complications when insufficient blood is supplied to the body

**I**MAGINE that your heart is like a house: You call a plumber when the pipes are clogged up.

That's how you'll understand atrial fibrillation (AF), says Datuk Dr Razali Omar (*pic*), consultant cardiologist and electrophysiologist at National Heart Institute. If your arteries (which he likens to water pipes) are clogged, you'll see a cardiologist to "unclog" them.

If you have a faulty electrical system, you call an electrician. Similarly, you'll probably see an electrophysiologist if there's something wrong with the electrical system in your heart.

The human heart has an electrical system? Well, yes.

The heart has four chambers — left and right atria (the upper chambers) and the left and right ventricles (the lower chambers). Its pumping action is regulated by the flow of electricity. In a person with a normal heart rate and rhythm, the heart



beats between 50 and 100 times per minute. With AF, the heart beats irregularly or rapidly (up to 180 beats per minute). When the heart cannot pump blood efficiently, there is a chance that blood will pool in it.

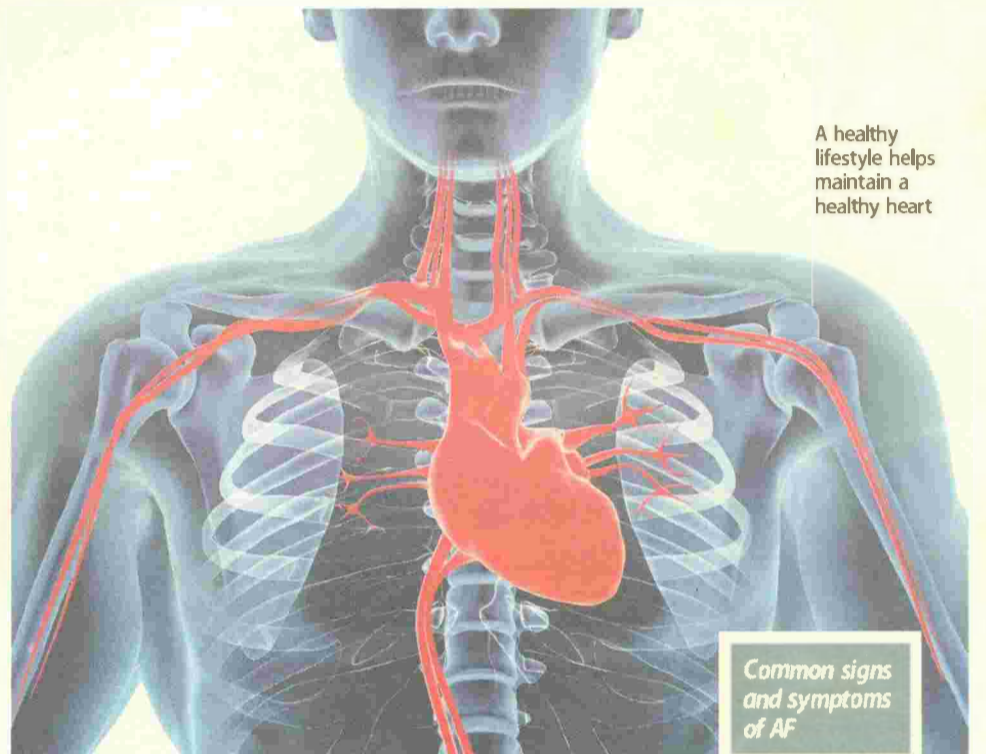
By itself, AF is not likely to cause sudden death. However, the complications arising from AF make the condition problematic. For example, if insufficient blood is supplied to the body, a person may feel tired, suffer chest pains or have fluid accumulating in the legs and lungs. If untreated, this is likely to

cause heart failure.

By far, the most serious complication of AF is the increased risk of a patient developing a stroke. This happens when the pool of blood in the heart clots and travels into the bloodstream, potentially blocking blood vessels in the brain. Starved of oxygen, a stroke is likely to occur.

At present, AF patients are given anticoagulation therapy which includes the use of medication with "vitamin K antagonists" (VKAs) to prevent a stroke. Although highly effective, there are limitations as VKAs can interact with a host of things such as common medication, alcohol and food that are high in vitamin K.

Such limitations were the impetus behind the landmark RE-LY (Randomised evaluation of long term anticoagulant therapy) study, of which Dr Razali was the Malaysian coordinator. Completed in 2009, this study involved over 18,000 patients from 44 countries and



A healthy lifestyle helps maintain a healthy heart

Common signs and symptoms of AF

1. Palpitations
2. Feeling weak
3. Fatigued
4. Breathless
5. Chest pains
6. Confused

demonstrated the efficacy of the latest anticoagulation therapy compared to more conventional ones.

Malaysia, with its ageing population, is likely to see a higher incidence of AF patients as AF is prevalent

among the elderly. Dr Razali advises that the best way to prevent the onset of AF is to reduce alcohol intake and to lead a healthy lifestyle so as not to develop heart disease, diabetes and hypertension.

## A matter of the heart

PATIENTS with atrial fibrillation (AF) tend to have a more difficult time than other cardiac patients. This is because with present anticoagulation therapy, aside from restricting their diets, patient have to be monitored by a doctor frequently.

Patients worry about becoming a burden to their families.

Two patients living with AF, Jamaludin Karmarudin, 58, of Seremban and Quek Swan Leng, 71, of Seri Kembangan echo these sentiments.

One day in 2003, Jamaludin was at home when he suddenly began sweating profusely. He telephoned his wife, Maimun, 58, who was at work. By the time she arrived home, Jamaludin could not move. She

rushed him to the hospital where he lay in a coma for four days.

After Jamaludin recovered, he was diagnosed with AF. With a history of other ailments, he was accustomed to taking medication and was prepared to undergo anticoagulation therapy. His daughter, Johana Intan Suria, 21, admits that when she saw her father in a coma, she feared that he was dying. Now, she has learnt to appreciate her time with her father.

Although hospitalisation frightened him, the retired Internal Revenue Board officer is happy to be alive and now maintains a healthy lifestyle. With a proud smile, he says that he walks 5km a day. His philosophy is simple: "It's just a tablet that I have to take twice a day. If I don't take it, I'll die."

Quek, previously in the construction industry, is also no stranger to heart disease as he has been living with it for more than 18 years. Although he insists that nothing much has changed in his life, his daughter, Bey Leei, 37, says that with conventional anticoagulation therapy, the family ended up staying away from eating vegetables such as broccoli and parsley. In addition, Quek cannot take certain supplements or traditional herbs such as ginseng. Their biggest worry with conventional coagulation therapy was that Quek might bleed internally. This problem seems to have been solved by taking the medication administered under the RE-LY study. Though relieved, Quek is resigned to the fact that he will be on medication for life.



Jamaludin Kamarudin flanked by his wife Maimun Majin (right) and his daughter Johana Intan Suria



Quek Swan Heng with his daughter Quek Bey Leei

## Are you at risk?

YOU need not have an underlying heart problem to suffer from atrial fibrillation (AF) as the risk of developing it increases with age. Nonetheless, it's more common to find AF in patients who have some cardiac condition such as heart valve disease, hypertrophy (enlargement of the left ventricle walls), coronary artery disease, hypertension or congestive heart failure.

Conditions that do not relate to the heart which might cause AF to appear are thyroid disorders, diabetes, excessive alcohol use, pulmonary embolism, sleep apnea and pneumonia.