

Affair of the HEART

Sheila Singam and Surinder Jessy visit Malaysia's newest state-of-the-art medical screening facility, equipped for early non-invasive detection of heart disease, stroke and cancers

The silent killer. That's the ominous phrase used to describe cardiovascular (CV) diseases because it can attack without any warning signs and cause sudden death.

According to the World Health Organisation, CV diseases are ranked as No 1 killers in the world, claiming some 17 million lives annually. It is estimated that one of three people around the world dies due to stroke or heart attack. In Malaysia, it is the leading cause of death, claiming a third of us. In 2001, approximately 20% of all deaths at the Ministry of Health hospitals were due to heart attacks and strokes.

Right, enough of the statistics. It's clear enough that our hearts are killing a large number of us. The reason for this state of affair lies in the very nature of CV diseases. According to a leading cardiologist in Kuala Lumpur, it's often the case that the symptoms of CV diseases may not occur until they are at an advanced stage. "By the time you get chest pains, it is already at an advanced stage," he states.

Question: Can we then pick up the warning signs earlier through existing procedures? What about stress tests, electrocardiograms (ECGs), cardiac catheterisation, angiography, heart scanners et al?

"Yes, these are the current diagnostic tests being used but they have their limitations. These procedures pick up the signs of the disease in its advanced stage. A stress test is only 65% sensitive and shows abnormalities only after a blockage of more than 70% has developed in an artery. Heart attacks occur at plaques that are usually much less narrow. You can pass a stress test today and die of a heart attack next week," he explains.

What you can detect from the hitherto known methods is just "the tip of the iceberg". "What we cardiologists need to detect is the formation of the iceberg so as to save lives," he adds.

Hence, doctors, especially cardiologists, have been hoping for medical technology to come up with a superior detection procedure which will pick up heart diseases earlier. Some years back, the heart electron beam scan screening procedure was introduced. A non-invasive procedure, it accurately detects calcium deposits or what is known as calcification of the artery walls.

However, mainstream cardiologists don't think it serves as an accurate imager of arteries. The heart scanning technologies have constantly been improved over the years with the two-slice and the four-slice scanners being introduced but they are still not considered "the finest methods" among pedigree cardiologists.

How then can cardiologists pick up signs of impending disease early enough to address it?

"Through the latest technology, a 64-slice multi-detector CT scanner called the Siemens Somatom Sensation 64. It's one of the most advanced technologies in healthcare today. It allows for early non-invasive detection of heart disease, stroke and cancer," replies the cardiologist.

Together with a renowned fellow cardiologist, they have invested more than RM5 million to purchase the



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scanner, which they have installed in a spanking new facility in Kuala Lumpur. Called HealthScan Malaysia, the 9,000-sq-ft facility is the first in Southeast Asia to install the hi-tech Somatom Sensation 64, the world's first and fastest 64-slice CT system, which has the ability to acquire images of the smallest cardiac, intracranial, pulmonary, mesenteric and peripheral vessels in less than 10 seconds.

"The technology allows us clear, close-up images of arteries. It can pick up structures down to 0.4mm. It provides information at one sweep, offering lots of data and detail," the cardiologist explains. In a nutshell, the scanner identifies vulnerable deposits of plaque — the main cause of heart attack and stroke — in the heart and brain vessels before they are detectable by existing methods, including nuclear imaging and ultrasound/Doppler studies.

The scanner performs non-invasive total-body angiograms as an alternative to the invasive methods to assess coronary, limb, head and neck blockages, bypass grafts, stents and congenital abnormalities.

Aside from CV diseases, the scanner also detects possible cancers by identifying abnormalities such as nodules, masses, cysts or tumours as small as a grain of sand and allows "virtual" colonoscopy, sparing patients the discomfort and inconvenience of invasive endoscopic colonoscopy.

"While cardiology benefits the most from this technology, it is evident that the benefits are also there in terms of cancer detection, as well as osteoporosis and body fat evaluation," the cardiologist points out.

And this is precisely why these two leading cardi-

ologists have invested time and money in this technology. While the health economics of screening is often questioned, both these doctors strongly advocate the process. "Lots of diseases go on without us knowing, and half the time, it strikes without any warning. With this technology, we will be able to contain and prevent a full-blown attack of a disease," he adds.

The 64-slice multi-detector CT scanner has received accolades from the medical fraternity worldwide. In a medical conference in Paris in June this year, cardiologists were encouraged to embrace the technology in order to be at the forefront of early detection. In Malaysia, leading specialists from the various medical fields have affiliated themselves to HealthScan. It is indeed the next big thing in the world of medicine.

Fashioned along the lines of a one-stop detection centre, HealthScan is designed to offer comprehensive diagnostic tools that cover all aspects of health screening. Aside from the Somatom Sensation 64 technology, other non-invasive diagnostic tools available here are blood and urine tests, tumour markers, ECG, stress test, echocardiography (heart ultrasound), lung function test, body-fat analysis, general X-ray, osteoporosis test and mammography.

To ensure comfort and privacy, the facility offers personalised and "five-star" services, including VIP lounges with Internet facilities, free parking and free dietician-designed meals.

"Obviously, we are not going to recommend that all patients go in for the Somatom technology. We have various health screening packages, you can opt for the one you want. When you walk in, you will be attended to by one of our highly trained consumer service representatives who will guide you through the screening process," the cardiologist says.

HealthScan accepts clientele on a referral basis from physicians, as well as on a walk-in basis. The centre's basic diagnostic packages range from RM380 for a general health evaluation (which includes medical consultation, lab profile, ECG, chest X-ray and cardiovascular risk score) to RM950 for a premium package with more tests. For additional evaluation through the Somatom technology, the packages are pegged from RM1,600 (premium plus cardiac or stroke evaluation) to RM2,950 (premium plus cardiac, cancer, stroke and osteoporosis evaluation). The virtual colonoscopy and coronary artery calcium scan cost less, at RM1,000 and RM800, respectively.

But why would you want to walk in and undergo health screening if nothing appears to be the matter?

"Simply because, as I've stated, many diseases cannot be detected early enough by conventional methods. By the time the symptoms begin to show, the disease may be at an advanced stage. By coming in and detecting what might already be there early, you save in eventual treatment costs that may arise if you don't detect it.

"If you consider that the cost of an angioplasty may run up to RM20,000, it makes more sense to pay less and come in for a scan if you're in the high-risk category," says the cardiologist.

He says HealthScan is manned by a group of highly trained physicians, radiologists and technologists, many of whom are prominent in their disciplines in Malaysia. "We are ethical practitioners. Obviously, we are not going to blindly recommend that everybody goes for the scan if they do not need it," he adds.

Patients can expect to get a full medical report within four hours, made possible by the centre's information technology investment, which enables full integration of electronic medical records, chemical pathology reports, radiology and cardiac diagnostics. This makes the health-screening process convenient for those who do not want to spend a full day waiting around at hospitals or for tourists or foreign businessmen on a tight schedule.

HealthScan is in the process of negotiations with airlines, hotels and travel agents with the aim of wooing health-conscious tourists to avail themselves of its sophisticated facilities. It is targeting people from the region as well as from the Middle East.

Want to check out if your heart, arteries, bones and other body parts are in order? The facility opens for consultation on Nov 1. **E**

HealthScan Malaysia is located
at Level 2, Menara HLA, Jalan Kia Peng,
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For inquiries, visit www.healthscan.com.my
or call (03) 2171 2308



Cardio **FACTS**

Heart and cardiovascular (CV) diseases can happen to anybody. If your family has a history of it, then you are more predisposed to it than somebody who comes from a family with a clean bill of health. But still, with today's fast-paced lifestyle, poor dietary and exercise habits and stress-producing issues, more people are becoming susceptible to it.

We don't mean to be alarmists, but it's a good idea to have regular medical check-ups to determine if you may be on the way to falling prey to heart and CV diseases. First, though, you should be aware of what are the conditions that fall into the category of heart and CV diseases.

TYPES OF HEART AND CV DISEASES

- **Artherosclerosis.** The major underlying cause of CV disease has been associated with atherosclerosis. The linings of the arteries become thick



with fatty deposits called plaque. The artery walls become hard and thick as these deposits build up. The arteries then lose their ability to expand and contract. Blood cannot move through them as easily. If a clot of blood or plaque becomes lodged in one of these arteries, the artery may become completely blocked. Then the tissues that the artery supplies are deprived of needed oxygen and nutrients. When this happens, the tissues begin to die. If a blocked artery is to the heart, a heart attack may occur. If a blocked artery is to the brain, a stroke may occur.

- **Angina.** Arteries that supply the heart with blood may become narrowed due to atherosclerosis. This condition is called coronary artery disease. People with this condition may not have symptoms. In more severe cases, chest pain called angina pectoris can be caused by narrowed arteries. Narrowed arteries can deliver enough blood to meet the needs of the heart during normal conditions. However, during excitement, physical exertion, exposure to cold, or digestion after a heavy meal, the heart requires additional blood. Then, the blood supply to the heart muscle may be insufficient to meet these demands. The hallmark of angina pectoris is exercise or stress-induced gradual increase in chest tightness that is relieved by stress. The pain is under the breastbone but may also be present in the neck or arms.
- **Stroke.** Lack of blood flow to the brain from a blood clot, or bleeding in the brain from a broken blood vessel, causes a stroke. Without a good supply of blood, brain cells cannot get enough oxygen and begin to die. You can also have what are sometimes

called "mini strokes", or transient ischemic attacks (TIA), where no damage is done to the brain. But even though they do no damage, TIAs are serious and can put you at higher risk of having a full stroke.

- **High blood pressure (or hypertension).** There are ways to measure blood pressure and medications to treat high blood pressure (by lowering it). A blood pressure reading measures the force of blood pumped from the heart against the walls of your blood vessels. It is recorded as two numbers: a top number of systolic pressure, or the pressure of blood in the vessels as the heart beats; and a bottom number of diastolic pressure, or the pressure of the blood between heart beats (when the heart rests). Although the average blood pressure reading for adults is 120/80, a slightly higher or lower reading (for either

number) may not be a problem. High blood pressure is diagnosed when the reading consistently exceeds 140/90. It is often called a "silent" killer because it usually has no signs or symptoms.

- **Heart attack.** If a blood clot in a narrowed artery blocks the flow of blood to the heart muscle, a heart attack occurs. The section of heart muscle that does not receive the blood begins to die. This condition is called myocardial infarction, or MI. As a result of MI, heart function can be seriously impaired. A heart attack may be a sudden episode. However, the condition that leads to an attack, coronary heart disease, develops over a long period of time.

- **Congestive heart failure.** Prolonged high blood pressure, heart attack and other CV diseases can cause congestive heart failure. The heart muscles may then lack the strength to keep blood circulating normally through the body. Blood flow slows and is inadequate to supply the body's needs. Blood returning to the heart is backed up, causing swelling. This generally leads first to fluid collection in the lungs and breathlessness and later, swelling of ankles and legs. Kidneys may not work properly.

Symptoms of heart attack and stroke

Occasionally, the symptoms of heart attack are confused with those of indigestion. Signs of a heart attack include uncomfortable pressure, fullness, squeezing or pain in the centre of the chest, which sometimes spreads to the arms, shoulders, jaw and back. Nausea and cold sweats also occur. Women are more likely than men to have some of the other warning signs, particularly shortness of breath, nausea, vomiting and back or jaw pain.

The signs of a stroke include: Sudden numbness or weakness of face, arm, or leg, especially on one side of the body; sudden confusion, or trouble speaking or understanding speech; sudden trouble seeing in one or both eyes; sudden trouble walking, dizziness, or loss of balance or coordination; sudden severe headache with no known cause; and blurred or double vision, drowsiness, and nausea or vomiting. **E**