

Blood test to predict heart disease in the works

■ BY POON CHIAN HUI

A BLOOD test that can predict how likely you are to suffer from a heart attack or stroke could be on the cards.

Researchers here have embarked on identifying proteins called biomarkers that can be used to pinpoint people at risk of cardiovascular disease. Medical help can then be given early.

Currently, there is no good predictive test for heart ailments. Coronary heart disease and stroke account for more than one-third of deaths here.

Doctors now rely on indicators such as chest pain, cholesterol levels, lifestyle habits like smoking, and the presence of other diseases such as diabetes.

But they are still not useful enough to foretell heart disease, said Professor Lee Chuen Neng, head of the National University Health System's surgical cluster.

Biomarkers may be more accurate as they go right down to the molecular level. "We are looking for... a much earlier warning system," added Prof Lee.

Together with experts from the Netherlands, researchers from Nanyang Technological University (NTU) started the study in 2005.

Thirteen biomarkers have been identified from a pool of 2,000 people so far. They are patients from the National University Hospital who have had heart surgery. Most are in their 60s or 70s.

To confirm that these biomarkers are indeed "a sign of bad things", the team will track the patients for at least three years to see if a majority experience heart problems again.

Five of the 13 biomarkers have been validated and found to be about 65 per cent accurate in predicting disease, said lead investigator Sze Siu Kwan, from NTU's school of biological sciences.

The team hopes to discover biomarkers that are up to 80 per cent accurate by the end of the study, which is expected to run for another three years.

"We hope to use the biomarkers to develop a diagnostic kit that can be included in regular health-screening programmes," said Professor Sze. This can come in the form of a blood test.

Eventually, the team hopes to pick out about 10 biomarkers that are good enough to go into the diagnostic kit.

Prof Lee added that this paves the way for "personalised medicine", where treatment can be tailored to the individual.

"The factors involved in diseases are quite complex. With this new technology, we can find out why some people get into trouble while others don't," he said.