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Fighting heart disease with a simple saliva test

A University of Queensland (UQ) research project aims to detect, prevent and manage heart disease using a simple saliva test.

Dr Chamindie Punyadeera

Dr Chamindie Punyadeera, from the UQ School of Chemical Engineering, has been awarded a 2010 UQ Foundation Research Excellence Award for her work into developing an easy and cost effective way to detect heart disease prior to its onset.

This is the first research project conducted in Australia to investigate the diagnostic potential of saliva as a sample rather than blood.

Dr Punyadeera has been successful in the detection of the C-Reactive Protein (CRP) biomolecule in saliva, which is elevated in cardiac patients and people who have heart disease.

Previously, the only way to detect the presence of this biomolecule was to use a blood test.

Dr Punyadeera has proven a correlation between the CRP biomolecules present in saliva and in blood, and is developing more tests to detect heart failure and heart attack using a saliva sample.

撐aliva is a very effective tool for measuring the human body's health and well being, however to date saliva has been regarded as inferior to blood-based tests.

揂ecause saliva testing is non-invasive, easy for practitioners and patients, and does not require sample pre-processing, you will be able to have accurate heart diagnosis in less than 15 minutes,?Dr Punyadeera said.

Cardiovascular disease (CVD) refers to diseases of the heart and blood vessels and is the number one cause of death in Australia.

With one person dying of this debilitating disease every 10 minutes, early detection and

intervention will lead to a significant reduction in CVD related death.

Dr Punyadeera was recently presented with a Queensland Government Smart Future Award by Queensland Premier Anna Bligh.

Dr Punyadeera said that if her research was successful, cardiac patients would be able to test and monitor their disease progression from the comfort of their homes.

揂t the moment, tests need to be conducted in our lab but our aim is to develop an easy to use, portable saliva testing device that could be available in all households for instant diagnoses,?she said.

揑 am grateful for this UQ award and any further funding that will certainly help speed the research and its rollout to the medical profession and community."

Dr Punyadeera is currently seeking Research Higher Degree (RHD) students in the engineering, science and biotechnology fields to build her research team.

Dr Punyadeera was presented with her ward at a special ceremony at Customs House on Wednesday, September 22, as part of UQ's annual Research Week.

The UQ Foundation Research Excellence Awards have been running for 12 years and are an initiative of UQ to recognise outstanding performance and leadership potential in early career researchers. This year's awards total $910,000.

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