



## Faster, Cheaper Cardiac Imaging Test for Developing Countries



Results of the INCA-Peru study reveal the development of a faster and cheaper cardiac-imaging test that can be used in developing countries. Findings were presented at EuroCMR 2017.

The new cardiac-imaging test is believed to be three times faster and costs less than one-fifth. The test also changed clinical management in nearly 33% of patients.

Cardiovascular magnetic resonance (CMR) is currently the gold standard for diagnosing cardiovascular diseases. However, only two public hospitals in Peru offer CMR and the ones that do perform only 12 scans one day a week. Private hospitals that provide CMR charge nearly \$USD 600-800 per scan. Patients referred to these private hospitals have to wait up to three months for approval which delays both diagnosis and treatment.

The Impact of Non-Invasive CMR Assessment (INCA)-Peru study was set up to develop and test a CMR protocol that was faster and that could be made widely available in Peru. The study was a collaboration between Peru, UK, U.S. and Brazil.

The initial protocol was developed at University College London (UCL) and reduced average scan times from 60 to ten minutes. The protocol was implemented in Thailand and was successfully used to assess cardiac and liver iron overload in thalassaemia major patients. The protocol was adapted for the INCA-Peru Study by the addition of contrast agent gadolinium. The protocol was tested in 40 patients at UCL and each scan took approximately 15 to 20 minutes.

In this latest analysis, the new ultra-fast protocol was tested for two days at two hospitals in Peru. 100 patients with suspected cardiomyopathy and 11 healthy controls were included. None of the patients had been assessed by CMR.

The ultra-fast CMR scan took an average of 18 minutes per scan and cost only \$USD 150. The most common underlying diagnoses were hypertrophic cardiomyopathy (21%), non-ischaemic dilated cardiomyopathy (17%), and ischaemic cardiomyopathy (11%), plus 20 other diagnoses including tumours, congenital heart disease, myocardial iron overload, amyloidosis, vasculitis, and apical thrombus.

The new scan had an impact on the clinical management of 33% of patients. A new, unsuspected diagnosis was revealed in 20% patients with CMR. No scan-related complications were observed.

Lead author Dr Katia Menacho, a cardiologist from Peru and PhD student at UCL highlights that the

new protocol takes one-third of the standard scan time at a fraction of the cost. She said, "Accurate diagnoses provided by CMR have reduced morbidity and mortality in Europe and we hope to find the same in Peru. If we show long-term benefits on prognosis we will seek support from the Peruvian government to provide ultra-fast CMR at more hospitals in Peru. The accurate diagnosis provided by CMR should lead to more targeted patient care and better outcomes."

Source: [European Society of Cardiology](#)

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