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NEW RESEARCH REVEALS EBCT SCANNING IS CRITICAL AND EFFECTIVE FOR THE EARLY DETECTION OF HEART DISEASE IN PEOPLE WITH Type 2 DIABETES

Study shows EBCT is superior to conventional risk factor assessments and a more cost-effective technique for governments and health authorities to use to identify diabetic patients at risk.

Research published online today in European Heart Journal, Europe's leading cardiology journal, provides a valuable insight into the early diagnosis of heart disease in people with diabetes. The research, conducted by The Cardiac Imaging and Research Centre at The Wellington Hospital, concludes that it is now possible to accurately predict those diabetics at a higher risk of developing heart disease and who may need urgent and more intensive treatment.

80% of people with diabetes die of heart related problems and currently 191 million people – or 3-4% of the world's population - have diabetes. According to the World Health Organisation this figure will reach 333 million by 2025.

The Cardiac Imaging and Research Centre decided to conduct a study to establish how well the EBCT Heart Scan - a technique for rapid non-invasive scanning of the heart using Electron Beam CT technology - was able to predict heart attack or death in people with Type 2 diabetes, and to compare it with the more traditional methods of predicting risk. The scan is able to calculate the amount of calcium in the coronary arteries – one of the earliest predictors of heart disease – and give each patient an individual risk estimate also known as a coronary calcium score.

510 people with Type 2 Diabetes (those who develop it in later life) took part in the study, taken from diabetic clinics in and around the London area. The study was conducted between August 2002 and October 2005. All 510 underwent an EBCT scan and were subsequently followed up for up to 2 years to check whether they had sustained a coronary event such as a heart attack.

The study found 236 people (46%) had detectable coronary calcium, with 27% having at least moderate to severe coronary calcification. Of the 46%, 27% of patients had significant coronary calcification (defined as a coronary calcium score > 100 Agatston units) and these patients went on to have a nuclear cardiac scan (Sestimibi) to establish the presence or absence of obstructive disease in the coronary blood vessels. 32% these patients were found to have evidence of blockages in the coronary arteries.

Over a 24 month period from 2003-2005, the majority of cardiovascular events which included death, heart attacks, strokes, unplanned coronary angioplasty/stenting or bypass surgery, occurred in those patients with moderate to severe calcification.

The study also found that 274 people (54%) had insignificant coronary calcification (defined as coronary calcium score < 10 Agatston units) and none of this group went on to have a heart attack or stroke over the same 24 months period.

The research also proved that traditional methods of identifying high risk patients were often ineffective. At the beginning of the study, of the 510 patients, 74% were known to have high blood pressure, 62% had elevated cholesterol, 19% were current smokers, 33% were obese and 31% had a family history of heart disease. However, traditional methods of identifying those at risk of heart disease such as cholesterol, Framingham risk score and high-sensitivity CRP failed to accurately distinguish those who went on to have heart attacks or other events. When traditional tests failed to identify high-risk patients, EBCT calcium score and nuclear imaging clearly identified a high-risk sub-group of asymptomatic patients.

Dr Avijit Lahiri, the Consultant Cardiologist responsible for the research commented “The survey demonstrates beyond all reasonable doubt that EBCT scanning accurately identifies people with Type 2 Diabetes who are at risk of heart attacks and strokes and is superior to other methods of detection. It can be used to guide the use of more expensive and invasive tests such as angiography and improve the cost effectiveness of these tests”.

“Diabetes is becoming a world-wide epidemic. 80% of diabetic patients die of heart related problems and our research demonstrates that it is now possible to accurately predict which people with diabetes have heart disease and which don’t. It is now up to the government and Health Authorities to quickly adopt EBCT screening in order to prevent many unnecessary premature deaths”.

Dr David Hopkins, Consultant Diabetologist, Kings College Hospital, London commented “This study emphasises the extent of hidden heart disease in people with diabetes. We have long known that diabetes carries an increased risk of heart problems and unfortunately many of our patients first present after they have had a heart attack. These findings suggest that screening for very early coronary artery disease may be feasible in the future, allowing early detection and treatment to prevent heart attacks and improving the lives of people with diabetes.”

Amanda Eden, Care Advisor at Diabetes UK said, “People with diabetes have a five fold increased risk of developing cardiovascular disease. We welcome any advances in new technology to help identify heart problems in people with diabetes. However, we would still emphasise the importance of people with diabetes maintaining good blood glucose, blood pressure and lipid control to help prevent heart complications and the role that healthy lifestyles will play in this.”

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Notes to Editors:

About the study:

The study was conducted between August 2002 and October 2005 and included 510 people (61% were men and 39% women). All had been diagnosed with Type 2 Diabetes (those who develop it during adult life). 54% came from a South Asian background, 22% were Caucasian and 23% were African/afro-Caribbean.

These were a typical group of people with Type 2 Diabetes, without known heart disease taken from community diabetic clinics within the North-west London area.

About the Cardiac Imaging and Research Centre

The Cardiac Imaging and Research Centre, at the Wellington Hospital in North London, offers the EBCT Heart Scan supported by a team of clinical and research cardiologists who are on hand to speak with patients about the results immediately following the scan.

Patients must be referred by their GP or cardiologist before they can have a scan.

The Electron Beam Computerised Tomography (EBCT) is a technique for rapid non-invasive scanning of the heart using X-ray technology. It is recommended for men and women over the age of 45 who have two of the following: stressful lifestyle, high blood pressure, diabetes, high cholesterol, strong family history of coronary heart disease and who are overweight.

The Cardiac Imaging and Research Centre is carrying out research into heart disease in South Asians living in the UK, to discover why this group in particular, has a greater risk excess heart disease than the population as a whole. In addition, the Centre is carrying our research into the links between diabetes and heart disease.

The Wellington Hospital in north London is the UK's largest private hospital and it has an international reputation for its cardiac care.