



British  
Cardiac  
Research

Trust

Committed to  
innovative cardiac  
research

# BCRT RESEARCH UPDATE

## Our Vision

BCRT is dedicated to innovative research to further our understanding of heart disease. We fund ground breaking research & medical advances in *early diagnosis* of the disease using the latest state-of-the-art Dual Source Definition CT scanners.

## Funding

Our Research Programmes have only been possible through the extraordinary generosity of patients, companies & friends.

Since launch we have managed to raise over **£7m** which has helped make a significant difference to medical understanding, diagnosis & clinical management for those with known or suspected cardiac disease.

Our 2010-2011 research programme is ambitious but greatly needed. We are aiming to raise over £2.0m for the programme so any donation is greatly appreciated. How donations are spent:

- £1,000 will pay for Publication of results
- £5,000 will pay for 10 CT Research Scans
- £10,000 will fund 5 patients in RADICAL
- £20,000 will fund 8 patients in PROCEED
- £400,000 will conclude RADICAL

If you wish to donate please go to: [www.britshcardiacresearch.org](http://www.britshcardiacresearch.org)

## Key Research Successes to date

**THE WELLINGTON DIABETIC TRIAL:** A 3 year study in diabetic patients showing “silent” & progressive heart disease. Prof Lahiri, working with Prof Corder (Hammersmith Hospital) developed a new biomarker “Osteoprotegrin”, for the detection of silent but “active” coronary artery disease. These ground breaking results are referenced in the guidelines of The American College of Cardiology & American heart Association

**LOLIPOP TRIAL:** Results showed that South East Asian patients living in London had almost 50% higher incidence of Coronary artery disease than Caucasian white population. This is now a major peer review publication and has raised awareness of the significant ethnic variation and need for appropriate management. Further research is being carried out to further evaluate the underlying cause of the ethnic differences.

**WHITEHALL TRIAL:** Prof Lahiri, in collaboration with Prof Steptoe (University College London) screened 600 UK Civil servants. The initial results showed a clear-cut increase in coronary artery calcification with age. Coronary artery calcium imaging was more sensitive than all other risk factors for predicting coronary artery disease. There was an inverse relation between heart disease and socioeconomic status. This study currently is being submitted for publication.

## Research Programme

### **RADICAL TRIAL**

In collaboration with 3 NHS Hospitals this 900 patient study is comparing standard NHS care of patients who present at the NHS Rapid Access Chest Pain Clinics with new non invasive imaging with dual source definition CT scanning at the Wellington Hospital. Chest pain clinics in NHS hospitals are struggling with increase in waiting times, costs and missed diagnosis. It has recently been shown that unnecessary invasive angiograms are performed in up to 50% of patients with "normal" coronary arteries. The aim of RADICAL is not only to assess the ease & impact of these evolving scanning technologies but to establish cost-effective diagnostic strategies for those presenting with chest pain.

Interim results of 300 patients are encouraging:

- 2/3 patients who had CT angiogram at the Wellington did not require further testing
- Most patients preferred CT angiogram compared to invasive cardiac angiogram
- Initial results from CT angiogram proved useful in deciding method of treatment.

Trial due to be completed by December 2010. Further information on RADICAL [www.dailymail.co.uk/health/article](http://www.dailymail.co.uk/health/article) April 27, 2010

### **PROCEED TRIAL**

A critical trial is under development in patients with high-risk diabetes and 'metabolic syndrome' who have greater than 4-fold increase in risk of developing coronary heart disease. Since coronary heart disease remains *silent* in diabetic patients until late or advanced stages; often the earliest presentation is sudden death or heart attack, or the disease is too far progressed for proper management. Therefore, early detection of heart disease is mandatory in these subjects.

PROCEED will not only assess both the "soft" or "vulnerable" plaques in the coronary arteries but aggressive treatments and life-styles will also be assessed.

Prof Lahiri will be collaborating with Prof Roger Corder (William Harvey Institute UK), Prof Jan Nilsson (Sweden) & Prof Prediman Shah (Cedars Sinai Medical Centre, Los Angeles) to develop sensitive new biomarkers for detection of early coronary disease in these high risk patients.

500 patients will be included and followed up over 3 yrs.

### **DEVELOPMENT OF CARDIAC VACCINE**

Professor Nilsson (Sweden) and Professor P K Shah (Cedar Sinai Hospital, Los Angeles) have jointly developed a "Vaccine" for coronary atherosclerosis, which has been extensively tested in pre-human trials. Blood samples from the Wellington diabetes trial patients were sent to Sweden for further analysis, a close relationship was found between the 'antibody' and progression of coronary heart disease. This new data has been published in *Diabetology*, 2009, and forms an exciting basis for further collaborative research which will be carried out by Prof Lahiri in 2010. If successful this vaccine could have a profound impact on those with or who have a high risk of developing heart disease.

For further information on the vaccine [www.dailymail.co.uk/health/article](http://www.dailymail.co.uk/health/article)