



BETTER TREATMENTS FOR HEART ATTACK



As part of a global collaboration, BHF-funded researchers have established protocols that have helped change the way heart attacks are treated, influencing treatment guidelines, and saving thousands of lives across the world.

Around 150,000 heart attacks occur due to blocked coronary arteries each year in the UK. Since 1993, the Leicester Interventional Cardiology group has been at the forefront of research to determine how best to manage patients with blocked arteries. The group has been involved in the development and evaluation of numerous life-saving techniques and devices, including clot-busting (or thrombolytic) drugs, and angioplasty – a procedure whereby narrowed arteries are widened to restore blood flow.



Impact

Since 1993, the Leicester Interventional Cardiology group at the University of Leicester has been at the forefront of research to determine how best to manage heart attack patients and those with blocked coronary arteries.

As a result of pre-clinical work and clinical trials in the area of stent technology, the work of the Leicester team, together with the efforts of others around the world, has resulted in the recurrence of heart attack after stenting being reduced from 35 per cent to 5 per cent. The unit's research has allowed stenting to evolve into an effective and safe procedure by testing the efficiency, safety and cost-effectiveness of relevant drugs and stent designs. Their research findings have been incorporated into official UK, European and US healthcare guidelines and have helped to change the way coronary heart disease and heart attacks are treated.

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1992

Professor David de Bono, the first doctor to use a clot-busting (thrombolytic) drug on a heart attack patient in the UK, is awarded BHF Chair of Cardiology



1994

The BHF provides over £350,000 for a 5-year study of clotting in coronary heart disease, and the process by which blood flow is restored after a heart attack



1999

The BHF provides almost £750,000 for the REACT trial, run by Professor Anthony Gershlick. This is the first definitive study to show the absolute clinical benefit of angioplasty in the 35% of patients whose blocked arteries fail to re-open following treatment with clot-busting drugs. Across the world, patients are now managed according to a protocol that states that, if they receive thrombolysis, the ECG should be reviewed after 90 minutes and if the changes due to the heart attack have not resolved then they should have rescue angioplasty



2000-2005

Professor Gershlick is the UK research lead on five different trials of coronary interventions

2002

Professor Gershlick implants a drug-releasing stent into a patient for the first time in the UK



2005-2007

The Leicester unit leads the field in research on drug-releasing stents, carrying out studies to assess the benefits of stents that release anti-platelet and anti-thrombotic drugs, which prevent the formation of clots. This work highlights that thrombolytic (clot-busting) agents are of limited benefit, and can only open about 65% of blocked arteries

2005

Professor Gershlick becomes a founding member of the National Infarct Angioplasty Project (NIAP) – a joint project between the Department of Health and the British Cardiovascular Society (BCS) to test the feasibility of implementing a countrywide angioplasty service for heart attack victims. The final report is used to support commissioners, cardiac networks and service providers deciding on how best to offer services, and to feed into the development of primary care services



2008

NICE updates its guidance on drug-releasing stents, based on the work carried out by the Leicester team. Professor Gershlick represents the BCS as the Medical Expert presenting data to NICE. The number of patients treated with primary angioplasty subsequently doubles between 2008 and 2011.

2008 & 2012

In 2008 and 2012, the European Society of Cardiology publishes guidelines for the management of heart attack patients. Professor Gershlick is co-author on the European Guideline Writing Committee.



2008

The American College of Cardiology and American Heart Association issue a "focused update" of their 2004 guidelines for the management of heart attack, informed by findings from the Leicester group.

2009

A trial of 1,850 heart attack patients is launched, to compare different treatment strategies for patients with limited access to angioplasty



2010

The BHF provides over £250,000 for a pilot trial to investigate the best way of treating patients with blockages in multiple blood vessels



2013

The results of the 2009 trial are presented at a late-breaking session at the American College of Cardiology meeting, with simultaneous publication in the New England Journal of Medicine. Findings have an immediate impact on clinical practice. This has allowed the 20% of heart attack patients who cannot access angioplasty services quickly to receive better care.



Research

Funding

Medical
Milestone

Impact