ACUTE CORONARY SYNDROME

Acute coronary syndrome (ACS) refers to any group of symptoms attributed to narrowing or blockage of the coronary arteries that supply blood to the heart muscle itself.

As a result of poor oxygen supply to the heart, patients can experience angina (sudden chest pain or discomfort), and are at high risk of heart attack. In the UK, about 114,000 patients with ACS are admitted to hospital each year. Prior to 2000, it was well recognised that ACS was a leading cause of death, but the management and outcome of patients with ACS was poorly defined. In the 1990s, Professor Keith Fox of the University of Edinburgh and Joel Gore of the University of Massachusetts designed a 10-year programme of research and established the largest multi-national study of ACS.

Impact

A new scoring system for coronary heart disease, developed by BHF-funded researchers at the University of Edinburgh, has improved the management and treatment of heart patients around the world. This scoring system is now a reference standard and has resulted in international guideline changes in over 55 countries. It is estimated to save up to 80 lives for every 10,000 patients presenting with acute coronary syndrome.

Although we are now better able to assess risk of death in patients with acute coronary syndrome, someone still dies of a heart attack every eight minutes in the UK. With your help, we can fund more vital research into how to prevent heart attacks, and how to repair the heart following a heart attack.

FIGHT FOR EVERY HEARTBEAT

bhf.org.uk

ACUTE CORONARY SYNDROME

1992

Professor Keith Fox is awarded the BHF Duke of Edinburgh Chair of Cardiology

1993

The BHF provides £100,000 in funding for Professor Keith Fox to study indicators of unstable angina

1997

The BHF provides £1.35m in funding for the Third Randomised Intervention Treatment of Angina (RITA 3) trials, in order to determine the best course of treatment for patients with ACS

1999

A Global Registry of Acute Coronary Events (GRACE) is launched. This is a database of patient outcomes for those suffering with acute coronary syndromes, incorporating data from the RITA 3 trials

2002

Results from the RITA 3 trial are published, showing that rates of persistent angina were halved in those receiving early treatment, with those on a more conservative regimen, with no increase in risk of death or heart attack. The RITA 3 trials provide the foundation for further study of ACS treatment

2003

The BHF provides £360,000 in further funding for the RITA 3 trials

2003

The GRACE risk score (a model to assess risk of death for ACS patients) is created based on the GRACE database

2006

Further developments of the GRACE risk model are published, showing effective prediction of death in the first six months after hospital discharge, enabling improved risk assessment and management of ACS patients.

2008

The BHF establishes a Centre of Research Excellence at the University of Edinburgh, which offers further support for research into the GRACE score

2010

NICE guidelines are updated to recommend the use of the GRACE score over other risk-scoring tools for ACS.

2011

The European Society of Cardiology guidelines are updated to include the GRACE score; 55 countries have pledged to implement the ESC guidelines.

2011

The GRACE risk score is made freely available to download to a mobile device. To date, there have been over 10,000 downloads of the app

2013

American Heart Association and American College of Cardiology guidelines recommend using the GRACE risk score

Research Funding Medical Milestone Impact