

One in five heart-attack deaths could be prevented with new drug

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Robert Storey, Professor of Cardiology at the University of Sheffield's Department of Cardiovascular Science, presented findings today that confirm one in five deaths in the year following a heart attack could be prevented if a new drug, ticagrelor, was used instead of the standard treatment, clopidogrel.

Professor Storey's latest findings were presented at the British Cardiovascular Society annual scientific conference in Manchester today (Monday 13 June 2011).

Professor Storey has led UK investigations of ticagrelor and was a member of the international committee that conducted the PLATO study, a trial of over 18 thousand patients in over 40 countries around the world. The results of the PLATO study were first presented at the [European Society of Cardiology](#) congress in 2009, showing that ticagrelor was more effective for [heart attack patients](#) than clopidogrel in reducing death and recurrent [heart attack](#).

A new analysis of the PLATO study presented this year at the American College of Cardiology showed that ticagrelor is just as effective at reducing deaths in patients over the age of 75 as in younger patients. Professor Storey commented: "Our new findings really highlight the universal applicability of the treatment."

Ticagrelor was made available in the UK in December 2010 but has not yet been adopted across most of the UK due to cost concerns.

Clopidogrel has a very low cost as it is available in generic forms, whereas ticagrelor is more expensive at around £55 per month. However, the excess drug cost of ticagrelor is offset to some extent by its greater effectiveness which reduces the need for heart operations.

Professor Storey commented: "Many people are dying avoidably in the year after having a heart attack due to delays introducing this new treatment. These new findings provide yet further evidence in support of making the drug available to patients in the UK. We're pleased that the Scottish Medicine Consortium recently approved ticagrelor, on the basis that the initial expense of the drug is offset to a significant extent by the resultant savings, such as reduced need for procedures. In England, a verdict from NICE is awaited but final guidance is not expected until October."

One of the problems with clopidogrel is that about a quarter of people in the UK have a genetic variant that reduces the effect of the drug and are at greater risk. A sub-study of the PLATO trial was published in the Lancet confirming that patients treated with clopidogrel, who have such a genetic variant, have a slightly higher risk in the first month following heart attack but ticagrelor is not affected by this variant and is still more effective than [clopidogrel](#), regardless of a patient's genetic make-up.

A common side-effect of ticagrelor is a sense of breathlessness which is usually mild and well-tolerated. Professor Storey presented data at the European Society of Cardiology meeting in 2010 showing that even patients who develop this side-effect still seem to have the reduced mortality risk compared to clopidogrel-treated patients. Another analysis led by Professor Storey showed that patients who develop breathlessness on ticagrelor do not show any problems on heart or lung tests, providing reassurance about the benign nature of ticagrelor-related breathlessness.

Professor Storey has been involved with the development of ticagrelor

and related drugs for the past 15 years. 90 patients from Sheffield, with acute coronary syndrome, were recruited for the PLATO trial, which involved over 18,000 cardiac patients worldwide. One of the questions that is currently unanswered is whether continuing ticagrelor beyond 1 year after a heart attack will lead to continued benefit. This question will be addressed by the PEGASUS study which has recently started in the UK and many other countries, recruiting patients who are within 2 years of completing their one year course of treatment following a heart attack.

Professor Storey commented: "PEGASUS is an exciting study that will recruit 21,000 patients around the world, looking at whether ticagrelor added to aspirin is more effective at preventing problems related to clotting in the arteries than the standard anti-clotting treatment of aspirin only. Another study (ATLANTIC) planned to start in the next few months will also assess whether it is more effective to treat patients with full-blown heart attack with ticagrelor in the ambulance rather than wait until patients arrive at the hospital to have the blocked artery opened by balloon angioplasty."

Provided by University of Sheffield

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