

Trial investigates use of asthma drug for patients with heart conditions

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Researchers at Guy's and St Thomas' NHS Foundation Trust have launched an innovative new trial which aims to improve the recovery of patients with serious heart conditions.

The CXCR2 inhibition and coronary [heart](#) disease (CICADA) study will test if a [drug](#), known as AZD5069, originally developed to treat patients with respiratory conditions such as asthma and chronic [obstructive pulmonary disease](#) (COPD), can improve recovery from severe angina or [heart attack](#).

The drug is thought to prevent neutrophils, a type of white blood cell, from causing inflammation in the arteries following a very common non-surgical procedure known as [percutaneous coronary intervention](#) (PCI)

The majority of patients with serious symptoms of coronary heart disease (CHD), such as angina or heart attack, will undergo a PCI to open narrow or blocked arteries in the heart. There were 96,143 PCI procedures in the UK in 2013/14. While PCIs are effective and safe, the process of opening narrowed arteries can cause inflammation which delays recovery and in some cases can require readmission to hospital for further care.

CHD is the most common cause of death worldwide and is responsible for more than 73,000 deaths in the UK each year. It occurs when the heart's blood supply is blocked or interrupted by a build-up of fatty substances in the coronary arteries. The most common symptoms of

CHD are chest pain (angina) and heart attack.

As well as reducing the inflammation caused by the PCI procedure, the trial will also investigate whether the drug can prevent the heart's other arteries getting blocked up too. The study is being led by Albert Ferro, Professor of Cardiovascular Clinical Pharmacology at King's College London and Honorary Consultant Physician at Guy's and St Thomas', who said: "The role that neutrophils play in inflammation is well established, but we also suspect that they are critically involved in the development of [coronary heart disease](#). However, until AstraZeneca developed AZD5069 as a treatment for COPD and asthma, there was no drug specifically targeting neutrophils.

"This drug powerfully inhibits the function of neutrophils and while it didn't work in its originally intended target disease, we think that giving it to patients following a PCI could limit the impact of inflammation following the procedure and may also help prevent the build up of fatty deposits inside patients' other [arteries](#)."

Philips Lofts, 58, from Sittingbourne in Kent, was one of the first people in the country to join the CICADA trial. He was diagnosed with an irregular heartbeat in February and was prescribed drugs to control the symptoms.

After further tests over the next few months it was decided that Philip would require a PCI procedure. He was transferred to Guy's and St Thomas' in December 2016. He said: "Just before my PCI procedure at Guy's and St Thomas', I was approached by a friendly researcher who told me that I met the criteria to take part in the CICADA trial. I was keen to participate and came in for my first round of tests in January.

"I don't know whether I am receiving the drug itself, or whether I'm getting the placebo, but it makes me feel very happy to know I am

helping their work which could lead to new treatments for people like me. Participation in the trial also means I get more frequent monitoring which is a major bonus."

Provided by NIHR Biomedical Research Centre at Guy's and St Thomas' and King's College London

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