



## **New blood pressure control found**

**UK scientists say they have discovered a new way to regulate blood pressure, offering hopes of new drugs to combat strokes and heart attacks.**

One in four adults has high blood pressure and although powerful drugs are already available, few manage to achieve target blood pressure levels.

The pathway found in a study by King's College London involves a process called oxidation, reports Science. Until now, oxidation has largely been linked with harm rather than good. Indeed, free radicals and oxidants, such as hydrogen peroxide, can cause cell damage. But they also play crucial roles in normal cell function.

### **Blood pressure control**

Protein kinase G (PKG) is an important protein in all tissues, but in the cardiovascular system it plays a fundamental role in blood pressure regulation.

Nitric oxide produced within blood vessels is known to be crucial in this process. But Joseph Burgoyne and colleagues at King's College have found a novel way in which the protein PKG can be regulated independently of nitric oxide.

### **The team's novel discovery opens up opportunities for the design of new drugs to combat high blood pressure**

The British Heart Foundation

They discovered that oxidants such as hydrogen peroxide cause a bond to form between two amino acids which, in turn, activates PKG. This then leads to a lowering of blood pressure.

Dr Philip Eaton, who led the King's team, said: "The research could lead to the development of drugs which activate this new pathway."

The researchers now plan to explore the role of this new pathway in the events leading to a heart attack.

Professor Jeremy Pearson, Associate Medical Director of the British Heart Foundation, which funded the research, said: "This research is exciting. Firstly, the team's novel discovery opens up opportunities for the design of new drugs to combat high blood pressure.

"Secondly, the mechanism provides new insights into how oxidant stress affects cells and tissues. Oxidant stress not only alters blood flow, but also affects the heart's ability to contract and is involved in a wide variety of inflammatory conditions."

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<http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/6961911.stm>

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