Angina: New drug gets right to the heart of the problem

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A compound designed to prevent chest pains in heart patients has shown promising results in animal studies, say scientists. In the second issue of the *British Journal of Pharmacology* to be published by Wiley-Blackwell, researchers from the Centre de Recherche Pierre Fabre in France, show that the novel compound F15845 has anti-angina activity and can protect heart cells from damage without the unwanted side effects often experienced with other drugs.

Because F15845 does not interfere with heart function, as some conventional drugs such as beta blockers do, it could be given as part of a combination therapy. "It's completely different from other anti-angina drugs which directly interact with the function of the heart. So the idea is to do a co-administration with conventional heart drugs such as beta blockers," says lead author of the study, Bruno Le Grand from the Centre de Recherche Pierre Fabre in Castres, France.

The drug works by blocking excess influxes of sodium into heart cells through 'gate' proteins called sodium channels. High levels of sodium in heart cells are associated with low oxygen levels, which cause angina and can in turn lead to the build up of toxic concentrations of calcium that are lethal to cells. A number of drugs that target sodium channels can block the influx, but they act universally on heart cells and can sometimes cause further heart irregularities.

F15845 specifically targets the sodium channels that are thought to cause the most damage, those responsible for what is known as the persistent

sodium current, which causes a permanent excess sodium influx.

The study confirmed the drug's anti-angina activity in laboratory animals. The researchers say the drug is absorbed well when given orally and represents a novel therapeutic opportunity for treating angina and possibly other cardiac pathologies.

"We know that in animals, we have acceptable bioavailability, but with the data that we have in human volunteers following phase I clinical trials we are very confident that it is above 70 per cent," says Le Grand.

Source: Wiley