

# Researchers discover heart drug could reduce diabetes related blindness

June 14 2016

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Researchers at Queen's University Belfast and University College London have discovered that a drug, originally developed to treat cardiovascular disease, has the potential to reduce diabetes related blindness.

According to recent WHO global estimates, 422 million people have diabetes. One of the most common complications of this disease is vision loss. Diabetic Macular Oedema occurs in approximately 7 per cent of patients with diabetes and is one of the most common causes of blindness in the Western World. In the UK, this sight-threatening complication of [diabetic retinopathy](#) is associated with estimated health and social care costs of £116 million. The socio-economic burden will only increase with prevalence of diabetes rising by more than 50 per cent by 2030.

Queen's and UCL researchers, in partnership with GlaxoSmithKline, found that the drug Darapladib inhibits an enzyme which is increased in people with diabetes and causes [blood](#) vessel leakage in the eye which leads to swelling of the retina and severe vision loss.

Currently, the most common treatments for patients with Diabetic Macular Oedema is an injection of a drug directly into to the eye every 4-6 weeks. This therapy is very expensive and not effective for about half of all patients with Diabetic Macular Oedema.

The discovery by the Queen's and UCL teams demonstrates that

Darapladib in form of a tablet has potential to reduce the need for monthly injections and provide protection against [vision loss](#) in a much wider group of patients with diabetes.

Speaking about the breakthrough, Professor Alan Stitt, from the Centre for Experimental Medicine at Queen's University, said: "Diabetes-related blindness is caused by [high blood sugar](#) levels damaging the blood vessels in the retina. We have found that an enzyme called Lp-PLA2 which metabolises fats in the blood contributes to [blood vessel damage](#) and leakiness in the retina. The drug Darapladib acts as inhibitor of Lp-PLA2, and was originally developed for [cardiovascular disease](#). Based on our break-through we are now planning a clinical trial and if successful we could soon see an alternative, pain-free and cost effective treatment for diabetic related blindness."

**More information:** Paul Canning et al. Lipoprotein-associated phospholipase A(Lp-PLA) as a therapeutic target to prevent retinal vasopermeability during diabetes, *Proceedings of the National Academy of Sciences* (2016). [DOI: 10.1073/pnas.1514213113](https://doi.org/10.1073/pnas.1514213113)

Provided by Queen's University Belfast

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