A revolutionary new treatment alternative to corneal transplantation

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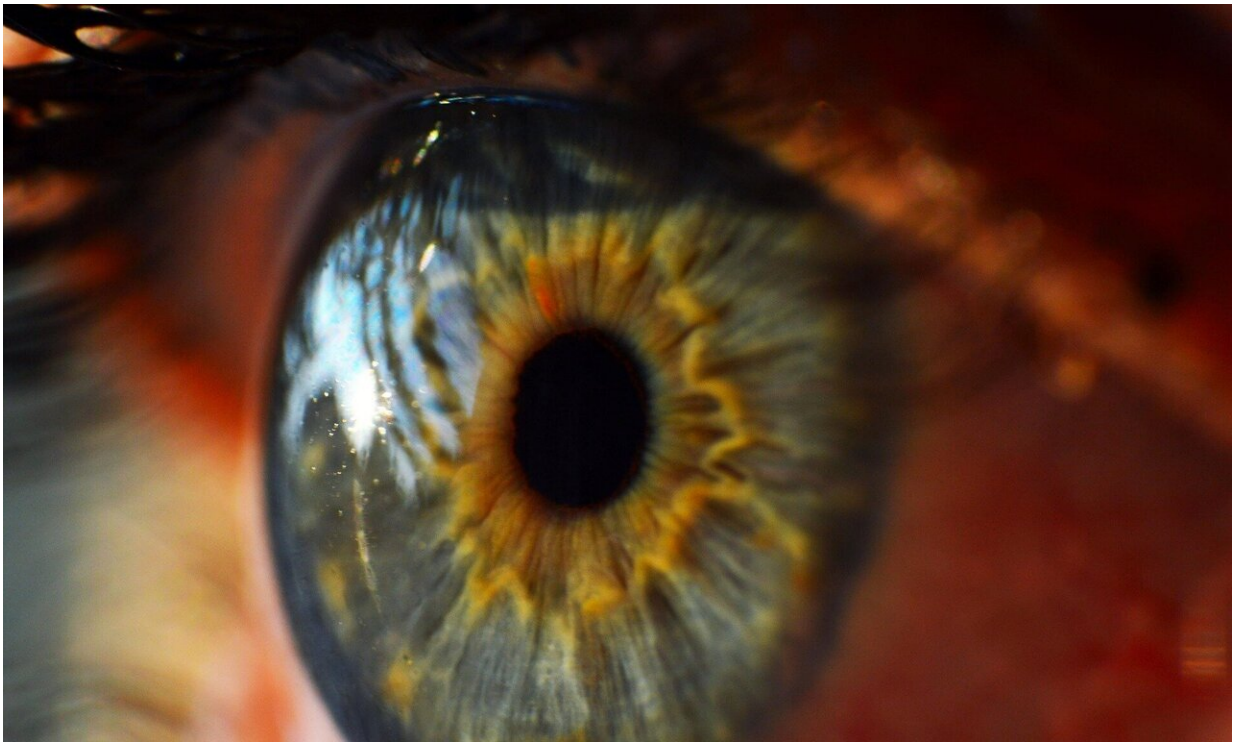

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The team was co-led by May Griffith, a researcher at Maisonneuve-Rosemont Hospital Research Centre, which is affiliated with Université de Montréal and is part of the CIUSSS de l'Est-de-l'Île-de-Montréal.

The results of this multinational project have just been published in the

journal *Science Advances*.

"Our work has led to an effective and accessible solution called LiQD Cornea to treat corneal perforations without the need for transplantation," said Griffith. She is also a full professor in the Department of Ophthalmology at Université de Montréal.

"This is good news for the many patients who are unable to undergo this operation due to a severe worldwide shortage of donor corneas," she said.

"Until now, patients on the waiting list have had their perforated corneas sealed with a medical-grade super glue, but this is only a short-term solution because it is often poorly tolerated in the eye, making transplantation necessary."

A synthetic, biocompatible and adhesive liquid hydrogel, LiQD Cornea, is applied as a liquid, but quickly adheres and gels within the corneal tissue. The LiQD Cornea promotes tissue regeneration, thus treating corneal perforations without the need for transplantation.

Griffith praised the work of her trainees, Christopher McTiernan and Fiona Simpson, and her collaborators from around the world who have helped create a potentially revolutionary treatment to help people with vision loss avoid going blind.

"Vision is the sense that allows us to appreciate how the world around us looks," said Griffith. "Allowing patients to retain this precious asset is what motivates our actions as researchers every day of the week."

For Sylvain Lemieux, president and CEO of the CIUSSS de l'Est-de-l'Île-de-Montréal, "this innovative treatment in ophthalmology confirms the level of expertise of the Centre universitaire d'ophtalmologie de

l'Université de Montréal (CUO) at the Maisonneuve-Rosemont Hospital (HMR).

"The HMR has one of the largest teams of ophthalmologists in Quebec and one of the best-equipped ophthalmology research laboratories in North America," he said. "The hard work of our scientists and clinicians contributes daily to best practices and knowledge development.

"The multiple therapeutic possibilities resulting from our fundamental research, particularly in regenerative medicine, benefit and give hope to people suffering from ophthalmological diseases not only in Quebec, but in the rest of the world," he concluded.

More information: Christopher D. McTiernan et al, LiQD Cornea: Pro-regeneration collagen mimetics as patches and alternatives to corneal transplantation, *Science Advances* (2020). DOI: 10.1126/sciadv.aba2187

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