

Eye drop gives hope for knifeless cataract cure

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An eye drop tested on dogs suggests that cataracts, the most common cause of blindness in humans, could one day be cured without surgery, a study said Wednesday.

A naturally-occurring molecule called lanosterol, administered with an eye dropper, shrank canine [cataracts](#), a team of scientists reported in *Nature*.

Currently the only treatment available for the debilitating growths, which affect tens of millions of people worldwide, is going under the knife.

While surgery is generally simple and safe, the number of people who need it is set to double in the next 20 years as populations age. And for many, it remains prohibitively costly.

The chain of research leading to the potential cure began with two children—patients of lead researcher Kang Zhang of Sun Yat-sen University in Guangzhou—from families beset with a congenital, or inherited, form of the condition.

Zhang and colleagues discovered that his patients shared a mutation in a gene critical for producing lanosterol, which the researchers suspected might impede cataract-forming proteins from clumping in normal eyes.

In a first set of lab experiments on cells, they confirmed their hunch that lanosterol helped ward off the proteins.

In subsequent tests, dogs with naturally-occurring cataracts received [eye](#) drops containing the molecule.

After six weeks of treatment, the size and characteristic cloudiness of the cataracts had decreased, the researchers reported.

"Our study identifies lanosterol as a key molecule in the prevention of lens protein aggregation and points to a novel strategy for cataract prevention and treatment," the authors concluded.

Cataracts account for half of blindness cases worldwide.

"These are very preliminary findings," said J. Fielding Hejtmancik, a scientist at the US National Eye Institute, who wrote a commentary also published in *Nature*.

"Before there are any human trials, the scientists will probably test other molecules to see if they might work even better," he told AFP by telephone.

The preliminary results, he added, "doesn't mean that lanosterol is the only or the best compound" to reduce cataracts. mh/mlr/pvh

More information: *Nature* [DOI: 10.1038/nature14650](#)

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