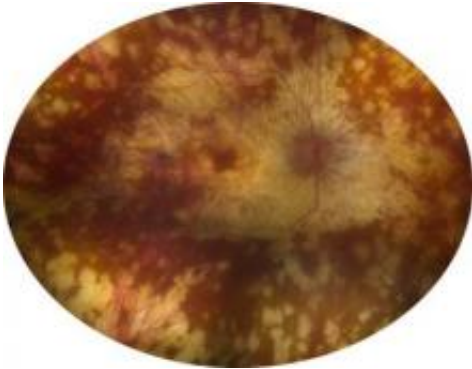


# New surgical implant prevents total blindness

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In the eye disease sympathetic ophthalmia, areas of the retina that have become scarred due to inflammation appear in yellow, while normal areas appear red-orange. Credit: University of Iowa

A work accident leaves a woman blind in one eye. As she copes with the loss, within months the vision in the other, previously uninjured eye begins to blur, and the eye becomes red and inflamed.

The rare eye condition, known as sympathetic ophthalmia, occurs when vision is lost in one eye through injury or multiple surgeries, and the body's overactive immune system attacks the remaining healthy eye. Left untreated, a person can become completely blind.

However, University of Iowa ophthalmologists and colleagues have tested and are now using a surgical implant called Retisert to prevent complete vision loss and eliminate dependence on systemic, or whole-

body, immunosuppression. Before use of the surgical technique, doctors had to "shut down" a person's entire immune system to stop the attack on the remaining good eye.

"Until recently, the primary treatment option for sympathetic ophthalmia was non-surgical and involved high doses of oral steroids followed by oral immunosuppressive medication to preserve vision in a patient's remaining eye," said Vinit Mahajan, M.D., Ph.D., assistant professor of ophthalmology and visual sciences at the University of Iowa Carver College of Medicine and a retinal surgeon with University of Iowa Hospitals and Clinics.

"But this treatment, similar to organ transplantation cases, subjects patients to life-long use of immunosuppressive drugs that have serious side effects such as osteoporosis, weight gain, potentially life-threatening infection and liver or kidney damage," he added.

The new Retisert treatment involves the surgical implantation into the endangered eye of a small plastic tab that contains a slow-release steroid called fluocinonide acetate. The insert provides immunosuppression only to the endangered eye, not other body parts. It lasts for about two-and-a-half years and then can be replaced.

Along with University of Iowa retinal surgeons James Folk, M.D., professor of ophthalmology, and Karen Gehrs, M.D., clinical associate professor of ophthalmology, Mahajan published a retrospective paper online in January in the journal *Ophthalmology* that documents the successful use of Retisert to treat eight patients with sympathetic ophthalmia.

The device previously was studied in approximately 300 individuals who had a different immune system inflammation of the eye. The UI-led sympathetic ophthalmia study found that with Retisert, the eight patients

reduced or eliminated use of systemic medications to control inflammation. While two patients needed to resume using an oral immunosuppressive, vision improved or remained stable in all eight patients.

"Using Retisert, we are stabilizing vision in patients with sympathetic ophthalmia and getting them off the heavy-duty immunosuppressive medications," Mahajan said. "Patients had been willing to put up with the serious side effects of systemic immunosuppression because if they lost vision in their remaining good eye, it would be totally life-altering. With Retisert, we can save the eye, and the side effects are limited to treatable risks of high pressure or cataracts in the eye."

While each implant costs approximately \$20,000, their use appears to be less expensive over the long-run compared to systemic immunosuppressive drugs and the required frequent hospital visits.

"If you add up the total number of patient visits, costs of lab tests and the costs of the immunosuppressive drugs, the \$20,000 for the device is cheaper," Mahajan said.

Mahajan and colleagues are reaching out to retinal surgeons nationwide to make them aware of this new treatment option for patients with sympathetic ophthalmia.

Source: University of Iowa

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