Dr. Raj Kanodia: Amla for AMD

Dr. Raj Kanodia, a renowned plastic surgeon in Beverly Hills, known as the “king of the Hollywood nose job.” Yet he is more interested than a plastic surgeon in studies about Amla, the Indian gooseberry. As a child in India, food fascinated him even then, and he set about studying it for much of his life. Kanodia learned about Amla’s benefits for the revitalization of cells when he was approached about five years ago by the Ayurvedic medicine company, TrueRemove, who informed him of the latest research on this traditional herb. Kanodia, a professor at the Keck School of Medicine and USC School of Pharmacy, is known for his recent research on Amla and related fields. This research interest was fueled by his previous studies on antioxidants and their potential role in preventing age-related macular degeneration (AMD) and Alzheimer’s disease.

In this study, Amla was shown to be effective in reversing the oxidative damage caused by chemotherapy and radiation treatment. The researchers found that the antioxidants in Amla were able to protect the mitochondria, the powerhouses of the cells, from damage caused by the chemo drugs and radiation. This finding is particularly significant given the high incidence of treatment-related diseases such as chemotherapy-induced cognitive impairment, which is often referred to as “chemo brain.”

Kanodia believes that Amla’s ability to protect the mitochondria could be beneficial in other areas of medicine as well. “The mitochondria are the batteries of every cell,” he says. “They are critical for the function of every tissue and organ in the body. If we can protect these batteries, we can protect the cells.”

One day, Kanodia and his team are planning to use Amla in the clinic to help patients with AMD and other age-related diseases. They are working on a two-photon device that will allow doctors to “focus really tightly and treat specific areas of the retina.” This device will be able to deliver a high-intensity laser to the damaged part of the retina without harming the surrounding tissue.

Meet the Researcher: Samantha Bradford, PhD

Samantha Bradford is part of a research group that has developed a new corneal crosslinking method using a two-photon laser. The method, which is called TrueCross, allows doctors to treat corneal crosslinking without removing the epithelium, which is the outer layer of the cornea. This results in less pain and a faster recovery time for patients.

Bradford earned her doctor of philosophy in biomedical engineering at UC Irvine. For the past year, she has been working with two-photon lasers to develop corneal treatments. “I knew I wanted to do something in a medical field, but I still wanted to use math and science,” she says. “I knew I wanted to do something that would make a difference.”

As the project continues toward building the device for use on humans in the clinic, Bradford is excited about the potential of her research. “If we can develop a device that works, we can change the lives of so many people,” she says. “I am grateful for the opportunity to work on something that can make a real difference.”

One of the early signs of macular degeneration is the loss of color-vision perception. This is not news to DEF Research Director Dr. Cristina Kenney, who has been working on this issue for many years. “We are always looking for new ways to detect age-related macular degeneration (AMD) earlier,” she says. “This is crucial for the millions of people who are at risk for developing AMD.”

Bradford is working with Dr. Kimberly Jameson, the Jack H. Skirball Endowed Research Chair and professor of corneal surgery at UCLA Health. Their goal is to develop a corneal crosslinking method that can be used to treat people with AMD. “We are proud to be part of a research group that is working to prevent AMD and other eye diseases,” says Bradford. “We are excited about the potential of our research and we are committed to making a difference.”

More information on this research can be found on the Discovery Eye Foundation website at discoveryeye.org.

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Donors are urgently needed to help fund important research that will advance treatment options for people with age-related macular degeneration (AMD), as well as other diseases.

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The Discovery Eye Foundation is committed to finding the answers that will preserve the vision of millions of people.

Stay tuned!