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Entrepreneur of the year 2024- Dr Jogin Desai (Eyestem Research)

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Eyeing 20-20 Vision of Excellence



A native of Ahmedabad and an expert in the field of drug development, Dr Jogin Desai incorporated his startup Eyestem Research in India, back in 2015, aiming to democratise access to cell therapy through a scalable cell therapy platform.

The journey of Eyestem started when Dr Desai met ophthalmologist Dr Rajani Battu (currently the Chief Medical Officer at Eyestem), in 2015, for a medical appointment that changed everything for both of them. Following the appointment, Dr Rajani introduced him to patients diagnosed with degenerative diseases of the eye and the terrible suffering they have to endure. He realised that dry age-related macular degeneration (AMD) is the largest cause of incurable blindness in the world for patients over 50 years. And this meant that for 196 million people suffering from this disease around the world, 40 million of which are in India, finding a cure is a need of the hour.

Eyestem, as a company, was initiated in late 2015 by Dr Jogin Desai, Dr Rajani Battu and Dr Dhruv Sareen, with a small project handed to a research team led by Dr Rajarshi Pal, then at Manipal Institute of Regenerative Medicine. A year later, Dr Desai approached Centre for Cellular and Molecular Platforms, C-CAMP, in Bengaluru, with the intention to incubate considering the state-of-the-art cell culture facilities and diverse funding and mentoring programmes available at C-CAMP. Dr Rajarshi Pal joined as a Co-Founder to incubate and lead the science.

Soon after, Eyestem was formally kickstarted in 2017 to address the unmet needs of degenerative eye diseases. Through its flagship product Eyecyte-RPE, the company is replacing lost retinal pigment epithelium cells. It is designed to restore sight for patients in the early stages of AMD and arrest losses for those in the later stages.

This pioneering treatment marks a major milestone for the Indian biotechnology sector and the global fight against vision loss, as it has the potential to replace damaged retinal cells. At present, Eyestem Research has completed a set of six patient injections for its RPE suspension therapy for Dry AMD treatment.

"Most cell and gene therapy products under development in the West are estimated to cost over $200,000. Our vision is to democratise access to such treatments at a fraction of these costs and begin disruption of the current status quo with our

Eyecyte-RPE product", said Dr Desai.

But of course, the journey has not been a smooth ride for this entrepreneur, considering the limited funding that is available in the Indian biotech sector, especially in the drug development and cell therapy space. Nonetheless, Dr Desai has emerged as a successful entrepreneur by raising more than Rs 150 crore for his startup since inception.

"The venture fund ecosystem to invest in Biotech in India is still at a nascent stage. Also, the ability to think of science in product development Vs academic research is lacking. That being said, I am very bullish about the growth of the biotech sector, which I firmly believe will do what the IT sector did for the Indian economy 20 years ago. India needs to invest in science for the next 20 years at over 2.5 per cent of GDP. Indian Pharma companies should leverage this opportunity and invest in innovative startups which align with their core philosophy, as biotech investments provide better returns than tech investments", shared Dr Desai.

Despite challenges, Dr Desai is moving forward with full enthusiasm to achieve his goal. To advance in his mission to revolutionise treatment for dry AMD with an innovative cell therapy, Eyecyte-RPE, Eyestem has collaborated with RetinaI, a pioneer in advanced artificial intelligence (AI)-driven analytics for ophthalmology.

"Their sophisticated AI tools and the RetinAI Discovery platform integrate perfectly with our vision, potentially shortening the timelines for our clinical trials and enhancing the accuracy of our analyses. This is not just a partnership; it's a confluence of high-end biotech innovation and cutting-edge artificial intelligence aiming to rewrite the narrative for patients affected by dry AMD worldwide", he elaborated.

In addition to this, Eyestem is also among a very few companies globally working on the treatment of Retinitis Pigmentosa (RP), in the form of Eyecyte-PRP. Eyecyte-PRP replaces the photoreceptor cells that are lost as a consequence of this disease. RP is a group of rare, genetic disorders that involve loss of the light-sensing photoreceptor cells in the retina. It affects children and causes total blindness by the time they reach their 20s and 30s.

"Generating transplantable retinal photoreceptors from induced pluripotent stem cells (iPSCs) holds tremendous promise to treat RP by replacing the damaged or dysfunctional native photoreceptors with healthy and functional ones. Eyestem has generated Eyecyte-PRP through a patent pending unified protocol. We have already done extensive in vitro characterisation of the product and will soon be ready to start animal trials, in collaboration with Oregon Health and Science University, Portland, to test the efficacy of our product", highlighted Dr Desai.

Dr Desai brings more than 15 years of experience in growing and nurturing businesses to his newest venture. Prior to Eyestem, he was part of the global leadership team at Quintiles and headed up their cardiac safety business from 2001 to 2007. More recently, he was the CEO of Cenduit, the world's largest standalone randomisation company with offices in Bengaluru, Basel, Philadelphia and North Carolina and a joint venture of Thermo Fisher Scientific.