Eddy Wu â?? Founder & CEO, Arctic Vision, China

> From an R&D perspective â?¦ what is critical in ophthalmology is the development of a novel drug delivery mechanism

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Dr Eddy Wu, founder and CEO of new Chinese ophthalmology biotech Arctic Vision outlines the specific unmet ophthalmology needs in the Chinese market, the companyâ??s burgeoning international partnerships, exciting portfolio, and Dr Wuâ??s own personal leadership journey.

Eddy, after an extensive international career across Big Pharma companies like Novartis and Allergan, as well as a stint with Chinese biotech Terns Pharma, what motivated you to establish Arctic Vision in May 2019?

There are two parts to this answer. The first is my personal mission. I started my career at Novartis and since then, I have mainly focused on ophthalmology. During my time at Novartis, I oversaw the LucentisÂ® program, overseeing the launch of the product in Asia-Pacific, Middle East and Africa. I remember in 2012, I organized an advisory board meeting with eleven of the top ophthalmology KOLs in the world, where I shared an epidemiological report on the positive impact LucentisÂ® has had on global rates of blindness since its launch. There had been a dramatic decrease in the incidence of blindness globally. On its own, the graph was just a flattening curve and statistics but for us sitting in that room, it was a very impactful representation of the way the lives of patients globally have been improved. Beyond the numbers, we are talking about grandparents being able to see and play with their grandkids for a longer period, of people being able to enjoy the beautiful sights of the world for longer. This achievement had only been made possible through the close collaboration of industry and physicians. That really cemented my commitment to continue working in the industry and specifically, ophthalmology, which I found a meaningful area.

From an environmental perspective, when I joined Allergan China in 2015, I observed that most of the other therapeutic areas in China â?? oncology, NASH, for instance â?? did have good existing linkages with the innovative technologies and therapies being developed by leading companies in the US and Europe. However, in terms of ophthalmology, the available technology and therapies in China were significantly lagging behind those in developed markets. Physicians often did not have the latest cutting-edge tools to treat patients, and patients were not benefiting from the most advanced treatment options globally. This was what eventually drove me to establish Arctic Vision in 2019: I want to create a company in China and Asia to bring in the latest innovations and therapies to fulfil the significant unmet medical needs in ophthalmology, for the ultimate benefit of patients and society.

What has been a pleasant surprise is the positive interest and support we have received from the investor community, which I believe would also accelerate the industryâ??s progress. Overall, I think the establishment of Arctic Vision as an innovative ophthalmology-focused biotech was rather good timing!

The name of the company is particularly evocative. What was the inspiration behind naming the company â??Arctic Visionâ???

This is a relatively unknown fact but globally, the animals that face the most challenges with sight are the animals that live in the Arctic. Arctic animals like reindeer, polar bears, Arctic fox and so on must survive and thrive in an environment that is in continuous darkness half the year and in perpetual daylight the other half of the year. What is very interesting is the type of evolutionary advantages these animals have developed to help them see better in such conditions. For instance, Arctic reindeer â??changeâ?? their eye colour from gold in the summer to blue in the winter. The blue helps to increase the sensitivity of the eye to the limited winter light. It seems that in the winter, the pupils of the reindeer are permanently dilated, preventing the fluid in the eyeball from draining, with the increased pressure compressing the layer behind the retina, which then reflects blue wavelengths rather than yellow wavelengths.

I thought it was very interesting because it is common knowledge that the Arctic is a very harsh environment but probably most people do not consider how the animals living there would have had to deal with the impact on their sight. For humans, I think there is a tendency to overlook the difficulties and struggles of people living with sight issues as well.

Nature inspired me to name the company Arctic Vision because I want to bring this kind of â??arctic visionâ?? to patients with ophthalmological conditions so that they can see better. I hope that by understanding more about ophthalmological diseases and patients, we can learn to help them better.

In Chinese, the name of the company is â??æ?•ç?®ç??ç?©â??, and the first two characters â??æ?•ç?®â?? mean having a long-term and comprehensive view, and the first character itself â??æ?•â?? means â??extremeâ??, implying the peak or the utmost point. This signifies that as a company, we have a long-term strategic vision and we are committed to reaching the end of that journey.

Could you elaborate more on the specific unmet medical needs in ophthalmology in the China market?

I would say the unmet medical needs are pan-ocular â?? across the entire field of ophthalmology. For instance, in the retina area, physicians in China currently rely heavily on anti-VEGF drugs, which is the gold standard internationally, but in the US, companies are already developing newer therapies like longer-lasting anti-VEGF. Another example is dry eye. The only treatment available in China is artificial tears, compared to other available procedures in other markets. Gene therapy is also an area that has huge potential in ophthalmology but there are not many gene therapy companies in China, and even fewer â?? maybe none â?? focus on ophthalmology specifically.

From an R&D perspective, too, what is critical in ophthalmology is the development of a novel drug delivery mechanism. In other therapeutic areas, there are different ways to deliver the drug: intravenous infusions, oral, etc. but for eye diseases, the retinal-brain barrier complicates drug delivery. If patients must take a high dose of a drug, they risk experiencing significant systemic side effects. Overcoming this issue is a huge topic in ophthalmology generally but there has unfortunately been very little focus on this in China thus far.

The first product in our portfolio is a great example of how we are focusing on addressing these unmet needs in China. XIPEREâ?¢ or ARVN001 was in-licensed from US biopharma company Clearside Biomedical (NASDAQ: CLSD). It is a proprietary suspension of the corticosteroid triamcinolone acetonide formulated for suprachoroidal administration via Clearsideâ??s proprietary SCS Microinjectorâ?¢, which is a novel drug delivery approach. This patented technology is designed to enable the rapid and adequate dispersion of medicine to the back of the eye, offering the potential for the medicine to act longer and minimize harm to the surrounding healthy parts of the eye.

The first indication in China will be macular edema associated with uveitis. We are very excited about this because of its favorable efficacy and safety profiles. In the Phase III US studies, the primary endpoint was reached, with nearly 50 percent of patients gaining at least 15 letters in best corrected visual acuity from baseline by week 24, a very significant improvement.

Clearside has brought XIPEREâ?¢ to the NDA preparation stage in the US They have out-licensed the US ,Canada, U.K, and European rights to Bausch + Lomb while we have the rights to this product for Greater China (mainland China, Hong Kong, Macau and Taiwan) and South Korea. We are currently preparing for IND in China, and we expect to receive feedback soon.

What were the strengths that convinced Clearside to select Arctic Vision as a partner for Greater China when it went with a Big Pharma player for the US and Canada?

There was a very competitive bidding process as many other pharma companies were interested in this asset. Ultimately, I believe that Clearside chose Arctic Vision because of the profile of our management team and our long-term focus and strategy.

Starting from myself, I have extensive industry experience in ophthalmology globally and in China, which is rather rare for Chinese executives, as well as start-up experience in a well-regarded Chinese biotech like Terns Pharma.

Beyond myself, my core team is also extremely experienced. My VP of Clinical and Regulatory Affairs, Dr Qing LIU, has a PhD and clinical training in ophthalmology and has served as Head of Eye Care Medical Affairs in Allergan China and Head of Clinical Development & Medical Affairs for Alcon Greater China and Medical Director of Alcon Asia Pacific. My VP of Operations and Commercial Planning, York Chen, headed Allergan Chinaâ??s eye care business, overseeing over more than 10 products including the launch of OzurdexÂ® (the first approved sustained-release product for the treatment of retina disease in China), and prior to that, was National Sales Manager at Alcon.

In addition, the three of us all worked together in Allergan so we have a strong and good working relationship, which gives a new company like Arctic Vision a lot of core stability. Ultimately, what was clear to Clearside was that while Arctic Vision itself may be a young company, the team itself comprises industry veterans with solid track records and strong capabilities equal to any other Big Pharma affiliate in the China market.

With your first asset secured, what can we expect from Arctic Vision in terms of pipeline development in the upcoming year or so?

We have been very fortunate to be able to close our first licensing deal in the first year. For our first asset, we are actually also exploring a second indication: diabetic macular edema (DME), which Clearside has already taken to Phase II studies in the US We will also consider if and how we can cooperate with Bausch & Lomb in the US and Canada to lay out a standalone China development pathway for our asset so that we can help as many patients in China as possible.

I am excited to announce that we also have several other promising deals on the table. By the end of 2020 or even as early as Q3, we could therefore have a portfolio of between three to six assets in total. This would be very impressive for a company of just two years. All these assets would be relatively late-stage, validated assets, with at least human proof-of-concept data available. Our initial focus is on this so that we can accelerate our development in China. We want to bring in cutting-edge innovations from other regions to the China market to quickly fill the gap in China. Focusing on a relatively lower-risk portfolio would also allow us to establish a solid foundation for Arctic Vision.

After building this foundational portfolio, in the longer run, we will of course start to develop our own R&D capabilities as well, particularly in the discovery and pre-clinical stages.

As an integrated company, our focus ultimately is not on any specific area of the eye â?? we are dedicated to addressing the entire pan-ocular space. The major driving forces for us are to address unmet medical needs and to bring in cutting-edge innovations to the China and Asia markets. These are the two selection parameters for our portfolio. We want to bring in the best treatments to help patients in the region that do not otherwise have viable or optimal options. This is also why we recently convened our Scientific Advisory Board, comprising global KOLs with expertise in different areas of ophthalmology.

On a final note, reflecting on your leadership journey, what have been the key learnings for you?

I started my career at Novartis Hong Kong. During the ten years I was there, I had the chance to move to Taiwan and then HQ at Basel, Switzerland, taking on significant regional roles and helping to develop and launch products for both developed and developing markets as regional medical director for Asia-Pacific, Middle East, Africa, China & Japan. In my last few years with Novartis, I was also heading the Health Economics Outcomes Research for the region, which gave me a lot of insights into market pricing and policy for a multitude of different markets. This complemented my background as a basic scientist â?? my PhD was in molecular pharmacology â?? and I really see my time with Novartis as the foundation of my career, providing me with a well-rounded training in industry from drug development, clinical and medical aspects, as well as product launches, to health economics, pricing and public policy, across countries as diverse as Australia and Bangladesh.

In 2014, I was invited by Allergan to become Executive Medical Director in China, which was also an impressive learning journey. Allergan itself is a very interesting company with involvement across pharmaceuticals (including ophthalmology, of course), aesthetics, consumer care, and medical devices. This exposed me to the different regulatory frameworks across these different market segments, as well as how to market and commercialize different categories of products. It was also a very intensive training ground to understand the China market better. I have since spent five years in Shanghai but because of my time with Allergan, I can safely say my knowledge of the China market is comparable to those people that spent 20 years in China. In addition, my time at Allergan allowed me to work with my current team, York and Qing, and also build a strong ophthalmology network that allowed me to set up Arctic Vision quite smoothly.

Finally, in 2017, I was invited by Terns and Lilly Asia Ventures to help set up the China subsidiary. This was a very huge change but in the 1.5 years I was with Terns as China Head, I learnt an incredible amount about how biotech start-ups work, from fundraising to R&D to commercial business development to government affairs and so on. I also had the chance to hone my management skills, which ultimately prepared me to be the CEO of my own company.

My career journey has therefore been essential to my current position: from Novartis I gained a global perspective; from Allergan I obtained China expertise and knowhow, and from Terns I learnt the biotech start-up experience. All of these combined have helped me build up Arctic Vison. We believe we are the best partner of choice in China in the ophthalmology area, based on our comprehensive range of capabilities, rich experience and solid KOL network, which are supplemented by our focus on innovative therapies in the clinical phase, as well as our science-driven and commercially-oriented ambitions since the inception of our company.

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