

PHOTO: MARTIN DEE

Pharmaceutical Sciences Prof. Kishor Wasan has developed an oral formulation of anti-fungal drug Amp B that could help eradicate Visceral Leishmaniasis in the developing world.

## New funding to study neglected global diseases

By BRIAN LIN

What began as a serendipitous discovery in Prof. Kishor Wasan's lab almost a decade ago may soon help eradicate a painful and fatal disease in the developing world, thanks to an innovative partnership among university, government and industry and a \$600,000 grant towards neglected global diseases.

Wasan, a Distinguished University Scholar and professor in the UBC Faculty of Pharmaceutical Sciences, was studying the delivery of water-insoluble drugs in 2000 when he discovered something new about Amphotericin B (Amp B), a powerful anti-fungal and anti-parasitic agent.

immune system, leading to death. According to the World Health Organization, 1.5 million new cases of VL are reported and close to 60,000 die annually.


In use for more than 50 years, Amp B has been proven effective against VL and blood-borne fungal diseases that affect HIV/AIDS and cancer patients. Currently administered intravenously, access to Amp B is expensive and prohibitive for underserved populations and those in developing countries. Wasan's oral formulation of Amp B has recently been validated by third-party scientists to be more than 99 per cent effective in animal models with minimal side effects. This work is scheduled for publication in *The Journal of*

Industry Liaison Office and the UBC chapter of the international student group Universities Allied for Essential Medicines (UAEM), the Global Access Initiative – the first of its kind in a Canadian university – works with university researchers and industry partners to provide the developing world with access to UBC technologies. Last year, Wasan's oral formulation of Amp B became the first drug to be licensed according to these principles.

In addition to agreeing to provide the drug at subsidized costs to developing countries, the drug's licensee, Vancouver-based iCo Therapeutics, is co-funding Wasan's Research Chair in Drug Delivery for Neglected Global Diseases with the Canadian Institutes of Health Research (CIHR).

Wasan is putting the \$600,000 award towards hiring graduate students who could help accelerate testing of the drug. "Every minute, three people are infected with this disease and we have the knowledge and tools to stop it," says Wasan, who is also organizing a Neglected Global Diseases workshop to bring together top scientists from UBC who are addressing neglected global diseases that are prevalent in developing countries.

Wasan says his uncle, a physician in Mumbai, has seen first-hand the impact VL has on rural residents in India – and the promise of a drug like Amp B.

"My family finally respects me now," says Wasan jokingly. "They say 'Kishor is doing something useful with his degree.'" 

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“We were surprised to find that when added to lipids, or fat, high levels of the drug made it into the bloodstream with no renal toxicity,” says Wasan.

That discovery later inspired the development of an oral formulation of Amp B that could greatly increase its effectiveness – and reduce the side effects – in treating systemic fungal infections and Visceral Leishmaniasis (VL). VL, a parasitic disease that is typically transmitted by sand flies in areas with poor sanitation conditions, attacks the liver and spleen and destroys the patient's

*Infectious Diseases*, one of the top journals in the area.

“As any pharmacist would tell you, compliance greatly increases when the drug can be taken orally. This is especially pertinent when we consider the population and regions most affected by VL,” says Wasan. “Now that we've got a formulation of a drug that can be easily administered and is effective in treating the disease, the next challenge is getting it to people who need it the most.”

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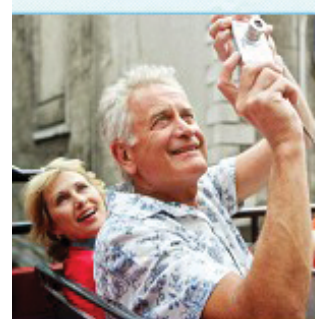
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