Potential cure for Chagas disease

October 25 2012

Chagas disease is spread through bites from insects such as Rhodnius prolixus - the "kissing bug". Credit: Wikipedia

A Murdoch University international collaborative project has found a potential cure for the deadly Chagas disease.

Chagas affects eight to 10 million people in Latin American countries, with about 20,000 deaths attributed to the disease each year.

Professor Andrew Thompson from Murdoch's School of Veterinary and Biological Sciences led the parasite component of the study, which has stemmed from 25 years of research on parasite infections in humans.

"Chagas disease can affect a number of organs including the heart and intestine causing acute heart failure or chronic diseases affecting the

heart or digestive system that may last for decades," Professor Thompson said.

"We have developed a new compound that cures Chagas disease in our mouse model of the disease; the next step is human trials."

Professor Thompson, in partnership with Australian drug research company Epichem, is investigating infections caused by trypanosome parasites, which cause a range of diseases in developing countries, including Chagas disease, sleeping sickness, and leishmaniasis.

The diseases are transmitted by different species of biting insects, and are increasingly present in Australia through migration of people and pets, exposure to defence force personnel and tourists and the emergence of similar diseases in native wildlife.

"These diseases cause devastating illness and death in people," Professor Thompson said.

"There are few, if any drugs available that can cure these diseases, and in many cases the toxic side effects of the drugs are sometimes worse than the diseases they treat.

"There is clearly a desperate need for new, effective, non-toxic drugs to treat and cure these diseases."

The Murdoch-Epichem partnership was initiated after international aid agency Medecins Sans Frontieres contacted Professor Thompson after reading about his research online and suggested Murdoch might be an ideal candidate for funding from Drugs for Neglected Diseases Initiative (DNDi) in Geneva, a non-profit agency directing funds from aid agencies and foundations for research on neglected diseases.

"We applied to DNDi for funding and were successful, and have received financial support from DNDi for the last six years, including recent substantial funding from an ARC Linkage grant with DNDi as the partner organisation," Professor Thompson said.

"The research has led to sustained, fruitful collaboration with Epichem, as well as more recently with the Centre for Drug Optimisation at Monash University who are key collaborators on the latest Linkage grant."

Provided by Murdoch University