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First Chagas drug in 40 years to enter clinical trials

Paula Leighton

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[SANTIAGO] A new drug for Chagas disease is set to enter clinical development, potentially ending four decades during which there have been just two drugs available.

Eight million people have Chagas disease in Latin America and the Caribbean and the disease threatens a further 100 million in the region.

Last month (29 September) the Drugs for Neglected Diseases initiative (DNDi) — a non-profit independent foundation — and Japanese pharmaceutical company Eisai announced a collaboration and licence agreement to assess the safety and efficacy of a pro-drug of the antifungal ravuconazole. Pro-drugs become active when in the body.

Ravuconazole, discovered and developed by Eisai, is one of a new generation of antifungal drugs. If development is successful, DNDi and Eisai could collaborate on production and sell the drug to the public sector in affected countries at an affordable price.

Chagas disease can lead to heart disease and kills an average of 14,000 people per year. It is caused by the parasite *Trypanosoma cruzi*, which is transmitted to people by blood-sucking insect vectors.

Studies in vitro and in animal models have shown that ravuconazole inhibits a process essential for parasite growth and survival.

"Therefore it is expected that, in humans, ravuconazole might lead to the desirable tissue effect that would result in parasitological cure," Isabela Ribeiro, senior project manager at DNDi Brazil, told SciDev.Net.

Ribeiro adds that ravuconazole is active in the body for longer than benznidazole, the most common antiparasitic drug, (4–8 days versus 12 hours, respectively) meaning it could potentially be taken less often.

Benznidazole is administered twice daily for 60 days, making it difficult for patients to complete a full course. Ribeiro says that results suggest that ravuconazole may need to be taken only once a week.

In addition, while benznidazole is not well tolerated, with patients frequently experiencing side effects such as nausea, drugs in the same family as ravuconazole have a well-known and more benign safety profile.

Initial clinical trials are expected to start in 2010 and will focus on patients with the chronic and symptomless form of Chagas disease that benznidazole fails to treat.



The 'kissing bug', the vector for Chagas, transmits the parasite *T. cruzi*
CDC Photo

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The trials are likely to be carried out in Argentina, Bolivia, Brazil, Colombia and Mexico.

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