

A milestone toward ending river blindness in the Western Hemisphere by 2012

March 31 2009

An international team of researchers led by Rodrigo Gonzalez of the Universidad del Valle de Guatemala reports that the transmission of onchocerciasis or river blindness has been broken in Escuintla, Guatemala, one of the largest endemic areas in the Western Hemisphere to date to stop the transmission of the parasitic disease.

The findings, which detail the lack of ocular lesions and the absence of infections in school children as well as in the black fly which spreads the disease, are published March 31st in the open-access journal *PLoS Neglected [Tropical Diseases](#)*. Escuintla is now the second of four Guatemalan areas to have stopped the [transmission](#) of river blindness.

"In a few short years—with continued hard work and increased political will—river blindness will never threaten the Americas again," said co-author Frank Richards, MD, of the Carter Center's River Blindness Program. "Ending transmission in Escuintla is an important victory in the campaign to eliminate this devastating disease."

To date eight of 13 endemic study areas in Latin America have ended the transmission of the disease, largely through health education and semiannual mass distribution of ivermectin—also known as Mectizan® donated by Merck & Co., Inc.

Ivermectin had been given to 85 percent of the at-risk Escuintla population of 50,000 since 2001 by the Guatemala Ministry of Public Health and Social Assistance (MPHSA). In 2007, the MPHSA, together

with the Onchocerciasis Elimination Program for the Americas (OEPA), The Carter Center, the CDC and the Universidad del Valle de Guatemala launched an evaluation in Escuintla to determine whether transmission had been interrupted and if semiannual treatment could be suspended, following guidelines of the World Health Organization (WHO). This evaluation led to the recommendation that treatment could be halted. Escuintla has now begun a three-year surveillance phase to ensure that infection does not reoccur in the absence of ivermectin distribution.

Onchocerciasis, caused by a filarial roundworm *Onchocerca volvulus* is transmitted to humans by the bite of an infected black fly. The parasite causes eye damage that can lead to blindness and skin disease. Acting under a resolution by the Pan American Health Organization (PAHO), the OEPA, seeks to stop transmission of *O. volvulus* throughout the endemic countries of Brazil, Colombia, Ecuador, Guatemala, Mexico, and Venezuela by 2012. With one endemic focus, Colombia became the first country in the region to interrupt river blindness transmission in 2007. The Carter Center is the sponsoring agency for the Guatemala-based OEPA, whose partnership includes the six endemic countries, CDC, PAHO, Merck, Bill & Melinda Gates Foundation, and Lions Clubs Foundation International.

More information: Gonzalez RJ, Cruz-Ortiz N, Rizzo N, Richards J, Zea-Flores G, et al. (2009) Successful Interruption of Transmission of *Onchocerca volvulus* in the Escuintla-Guatemala Focus, Guatemala. PLoS Negl Trop Dis 3(3): e404. doi:10.1371/journal.pntd.0000404, dx.plos.org/10.1371/journal.pntd.0000404

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