are affected by lymphedema or hydrocele, the long-term sequelae of LF. A global effort to eliminate LF is based on annual mass drug administration using antifilarial drugs; in 2008 alone, 496 million people received treatment. In the U.S., there are over 4 million immigrants from LF endemic countries and an estimated 10,000 people have LF. Like many orphan diseases, treatment for LF is readily available in endemic countries, but in the U.S. it is only available through the Centers for Disease Control and Prevention (CDC). CDC has partnered with the Palm Beach County Health Department to implement a pilot program to test and treat immigrants from LF endemic countries. The program aims to offer immigrants the opportunity to be tested and if needed treated within a single clinic visit at no cost to the patient. This pilot program took over three years to establish because both the rapid diagnostic test and the drug treatment although widely used in the global LF elimination program, are not FDA approved and require IRB approval for use in the U.S. A total of 12 clinics within four health centers in the Palm Beach County health department are participating in the program. Each patient from an LF endemic country is offered the opportunity to be tested. Currently, 433 patients have been tested, 425 (98.2%) stated their country of origin was Haiti. Thirty two (7.4%) tested positive and 31 patients were treated; the one untreated patient was ineligible due to pregnancy. The median age of the people positive was 15 years (range 6 - 40). No adverse events were reported. The staff and patients are very supportive of the program. This program provides access to LF treatment to a U.S.-based population that was exposed in the their countries of origin. This program could serve as a model for other orphan parasitic diseases.

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INCIDENCE AND GEOGRAPHICAL DISTRIBUTION OF SERIOUS ADVERSE EVENTS FOLLOWING MASS ADMINISTRATION OF IVERMECTIN IN CAMEROON FROM 1999 TO 2009

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Mass treatment with ivermectin started in Cameroon in 1987, followed by community-based ivermectin treatment and Community Directed Treatment with Ivermectin (CDTI) implemented by the National Onchocerciasis Control Program (NOCP) in 1999. In 1999, a cluster of serious adverse events (SAEs) was reported in an area endemic for loiasis. This prompted the institution of a surveillance system in Central Africa to promptly address SAEs.The present study evaluated the annual incidence and risk factors of post-ivermectin SAEs from 1999 to 2009 in Cameroon. Treatments data were obtained from the Cameroon NOCP. Medical files of subjects presenting with SAEs were analysed, and geographical coordinates of their communities of residence were collected. A total of 9,057,076 treatments was administered in the 38 health districts from 1999 to 2009. During this time, 382 SAEs were recorded, giving a cumulative incidence of 4.2 cases/100,000 treatments. The outcome was fatal in 11 cases for a mortality rate of 1.2 deaths per million treatments. The annual incidence of SAEs decreased from 8.6 cases/100,000 in 1999 to 0.9 cases/100,000 in 2009. Nearly all (95%) of the SAEs occurred following the first ivermectin treatment. A mean period of 32.9 hours (ranged 2-168 hours) elapsed between the treatment and the first symptoms. Nearly all (91.6%) of the subjects with SAEs were found to have *Loa loa* microfilariae in post-treatment blood samples. Furthermore, all SAEs occurred in regions predicted to be highly endemic for loiasis. This study confirms previous data demonstrating that loiasis is the main risk factor of SAEs following CDTI and that the risk is greatest after the first treatment. The current maps predicting Loa loa endemicity will be useful in the identification of at-risk areas, and will be necessary to guide the NOCP in Central Africa during the planning and implementation of CDTIs for onchocerciasis and lymphatic filariasis control in untreated areas. In areas treated for some years, it may be helpful to test ivermectin naive individuals for *L. loa* before treatment.

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THE HISTOPATHOGENESIS OF IVERMECTIN-INDUCED LOIASIS-ASSOCIATED PATHOLOGY IN PRIMATES

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Understanding the pathogenesis of the severe adverse effects that occur in patients with high circulating loads of *Loa loa* microfilaria can suffer when treated with ivermectin has been a major goal of those associated with the distribution of this important drug for the control and elimination of onchocerciasis and lymphatic filariasis in areas of Africa endemic for loiasis. The tissues examined from splenectomized baboons carrying very high loads of circulating microfilariae (>100,000 mf/ml) revealed a number of tissue changes and clinical changes in these animals consistent with those reported in humans suggesting that the baboon model is a useful model for studying and understanding the pathogenesis and can allow for development of therapeutic approaches to managing the human condition. These changes in the baboons after ivermectin treatment included parasitic thrombi, fibrin deposition and damage to vascular endothelium. Petechial hemorrhages were commonly found at autopsy in the CNS and other tissues, as was acute damage in the tissues surrounding these vascular lesions. Chronic inflammatory responses were seen in the liver that occasionally were associated with microfilarial death and tissue eosinophilia; these are believed to be inherent to the long term presence of high loads of Loa loa and not due to the ivermectin treatment. All of the 12 animals studied shown evidence of considerable regeneration of splenic tissues, new organs that were very actively involved in degeneration and destruction of microfilariae. Histological evidence of dermal Mazzotti reactions were also common post ivermectin therapy. These finding suggest that the adverse clinical responses seen after ivermectin treatment in hosts with high levels of circulating microfilariae are vascular based lesions and that there is a tendency for these involve the central nervous system.

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IMPACT OF A COMMUNITY-BASED LYMPHEDEMA MANAGEMENT PROGRAM ON PERCEIVED DISABILITY, PRODUCTIVITY AND QUALITY OF LIFE AMONG LYMPHEDEMA PATIENTS IN ORISSA STATE, INDIA

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Lymphatic filariasis (LF) infects an estimated 120 million people worldwide, causing lymphedema and hydrocele in over 40 million. India comprises over 40% of the world's LF burden, with millions of people in need of lymphedema management. A community-based lymphedema management project in Orissa State, India, was begun in 2007 by the Indian non-governmental organization, Church's Auxiliary for Social

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