

Publication

Assessing the presence of *Wuchereria bancrofti* in vector and human populations from urban communities in Conakry, Guinea

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The Global Programme to Eliminate Lymphatic Filariasis was launched in 2000 with the goal of interrupting transmission of lymphatic filariasis (LF) through multiple rounds of mass drug administration (MDA). In Guinea, there is evidence of ongoing LF transmission, but little is known about the most densely populated parts of the country, including the capital Conakry. In order to guide the LF control and elimination efforts, serological and entomological surveys were carried out to determine whether or not LF transmission occurs in Conakry.; The prevalence of circulating filarial antigen (CFA) of *Wuchereria bancrofti* was assessed by an immuno-chromatography test (ICT) in people recruited from all five districts of Conakry. Mosquitoes were collected over a 1-year period, in 195 households in 15 communities. A proportion of mosquitoes were analysed for *W. bancrofti*, using dissection, loop-mediated isothermal amplification (LAMP) assay and conventional polymerase chain reaction (PCR).; CFA test revealed no infection in the 611 individuals examined. A total of 14,334 mosquitoes were collected; 14,135 *Culex* (98.6%), 161 *Anopheles* (1.1%) and a few other species. Out of 1,312 *Culex* spp. (9.3%) and 51 *An. gambiae* (31.7%) dissected, none was infected with any stage of the *W. bancrofti* parasite. However, the LAMP assay revealed that 1.8% of *An. gambiae* and 0.31% of *Culex* spp. were positive, while PCR determined respective prevalences of 0% and 0.19%.; This study revealed the presence of *W. bancrofti* DNA in mosquitoes, despite the apparent absence of infection in the human population. Although MDA interventions are not recommended where the prevalence of ICT is below 1%, the entomological results are suggestive of the circulation of the parasite in the population of Conakry. Therefore, rigorous surveillance is still warranted so that LF transmission in Conakry would be identified rapidly and adequate responses being implemented.

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