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Elimination of lymphatic filariasis in Loa loa areas

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In the present issue of The Lancet Infectious Diseases, Sébastien Pion and colleagues¹ report on the three years impact of semi-annual administration of albendazole for the elimination of lymphatic filariasis (LF) in areas with co-endemic loiasis. In these areas, the standard intervention recommended by WHO, annual administration of ivermectin and albendazole,² cannot be implemented for the risk of serious adverse events in persons with high *Loa loa* microfilaraemia.³ The study also shows the impact of the intervention on soil-transmitted helminth (STH) in an area where these parasites are very intensively transmitted and with very high intensities of infection.

In our opinion the article is very interesting for multiple reasons: firstly it provides community level results supportive of the efficacy of albendazole monotherapy as a strategy towards LF elimination in loiasis co-endemic settings. Not characterized as either a micro or macro filaricide, 6 rounds of albendazole over the course of 3 years reduced significantly the prevalence of *Wuchereria bancrofti* microfilaraemia (Mf) and antigenemia. Mf prevalence in the study site was reduced to below 1% after the 6th round, which if representing a sentinel or spot-check evaluation, would have met eligibility criteria for conducting a transmission assessment survey (TAS) to determine whether to stop treatment. ⁴ While LF antigenemia prevalence in the total population were not reduced to below thresholds measured in the TAS, this does suggest that it may be possible to reach such levels (at least in areas of moderate baseline endemicity), perhaps, in the same length of time as standard 2-drug interventions.

It is necessary to use caution in assumptions about the efficacy observed in this study. Two other factors no doubt contributed to the success of the strategy, high treatment coverage and high reported net use. The strategy used in programmatic settings may not achieve the same level of treatment coverage. While net use would not directly impact infections, nets can prevent new infections improving chances of interrupting transmission and is why this is included as part of the WHO provisional strategy. Because the provisional strategy was recommended based only on observed efficacy in trials of single dose albendazole, the Strategic and Technical Advisory Group on Neglected Tropical Diseases endorsed the strategy as ‘once, preferably twice yearly’ albendazole distribution.⁵ It is unfortunate that annual albendazole monotherapy was not included as a comparative strategy.

Secondly it is interesting to see that the intervention is also dramatically reducing soil-transmitted helminth infections of moderate/heavy intensity (that are the main source of morbidity caused by this group of parasites).⁶ The soil-transmitted helminth infections of moderate heavy intensity were over 60% at baseline and were drastically reduced over time

by over 80%. The result of this study are confirming the ones recently presented in a meta-analysis,⁷ showing that on average the reduction of infection of moderate heavy intensity is of 73% after the first year of treatment, which reached almost 80% after 5 years and over 95% in 10 years of deworming interventions. This study further confirm the capacity of the deworming intervention of eliminating STH morbidity and maintaining the egg count low.

Finally it is interesting to see that despite the intervention was frequent and with good coverage in the all age groups living in the area, it was not sufficient to eliminate soil-transmitted helminthiasis. Most of the remaining STH infections are of light intensity (and therefore not expected to cause morbidity) but an important part of the population remained infected with soil transmitted helminths showing that an improvement of the sanitation standard to a level that impede the environmental contamination with human faeces is, as recommended by WHO an essential component of the strategy to eliminate these parasites.⁸

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