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Randomized, controlled, double-blind trial with ivermectin on *Loa loa* microfilaraemia: efficacy of a low dose (approximately 25 microg/kg) versus current standard dose (150 microg/kg).

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Neurological serious adverse events (SAEs) following ivermectin treatment may occur in individuals harbouring high *Loa loa* microfilarial densities and are of major concern in the context of mass ivermectin distributions organized in Africa for onchocerciasis and lymphatic filariasis control. As those SAEs are induced by the rapid and massive microfilaricidal effect of a standard dose of ivermectin (150 microg/kg), we performed a randomized, controlled, double-blind trial to determine whether ivermectin given as: (a) a single low dose of 1.5mg (i.e. 25 microg/kg for a 60 kg person); or (b) two doses of 1.5mg given at a 2 week interval leads to a more progressive decrease in *Loa* microfilarial loads compared with the standard dosage. A low dose of ivermectin brought about a significantly smaller decrease in *Loa* microfilaraemia than the standard dose. However, this decrease was not sufficiently different from that obtained after the standard dose to be acceptable to public health programmes, which require a wide safety margin. A second low dose of ivermectin given 15 days after the first dose did not lead to a further decrease in *Loa* microfilaraemia. Lastly, the variability in the response observed in the group treated with 25 microg/kg suggests that even lower doses would have no effect on a significant number of patients. Ivermectin given at a low dose (≤ 25 microg/kg) is probably not adequate to prevent the occurrence of post-treatment neurological SAEs.

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