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Efficacy of chloroquine-doxycycline combination therapy on co-infection of malaria and onchocerciasis in ahani-achi

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The clearance rates of separate and combination therapies of chloroquine and doxycycline on malaria, onchocerciasis and mixed onchocerciasis-malaria parasitemia in 603 volunteers aged 10-60+ years were investigated for baseline and post-intervention mean parasite densities (MPD) using skin snip biopsy and smear microscopy techniques between March 2012 and April 2014. Subjects were classified into onchocerciasis (n=100), onchocerciasis+ chloroquine-doxycycline therapy (n=90), malaria (n=104) and concomitant onchocerciasis-malaria (n=309) groups. Standard treatment with doxycycline was 200mg daily dose for 6 weeks while that of chloroquine was 1000mg loading dose, followed by 500mg after 6-8 hours, then 500mg each day for 2 days. Result showed that the clearance rates of chloroquine-doxycycline, chloroquine-only and doxycycline-only on concomitant onchocerciasis-malaria parasitemia were 100%, 94.12% O. volvulus; 52.97% MP and 100% O. volvulus; 97.70% MP respectively. Chloroquine was shown to potentiate the microfilaricidal action of doxycycline. Chi-square (X²) analysis showed that the difference between the clearance rates of combination therapy and chloroquine-only therapy on concomitant onchocerciasis-malaria parasitemia was statistically significant ($P < 0.05$) while the difference between the clearance rates of combination therapy and doxycycline-only therapy on mixed parasitemia was not statistically significant ($p > 0.05$). In conclusion, Chloroquine-doxycycline combination therapy proved effective as a novel therapeutic strategy in the management of separate and co-infection of malaria and onchocerciasis.

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