

(54) Title of the Invention : USE OF IONIC TO NON-IONIC EXTRACTS OF BARK AND LEAVE OF AZADIRACHTA INDICA (NEEM) AT DOSE RANGE 300 MG/KG TO 6000 MG/KG FOR RESISTANCE REVERSAL TO ACQUIRE EFFICACY OF QUININE (Q) AT DOSE 20 MG/KG IN CHLOROQUINE RESISTANT PLASMODIUM STRAIN OF DISEASE MALARIA.

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(57) Abstract

Advance of resistance to various antimalarial drugs by plasmodium malarie merozoite and life threatening disease in the world. Current medicine to treat merozoite and interest in research for antimalarial from medicinal plants. Plasmodium vivax merozoite (PV) is multi drug resistance malarial parasite interest for resistance to chloroquine, quinine, spiramycin, mefloquine, halofantrine, pyrimethamine and sulfadoxine. The plasmodium vivax produces homologous parasites infections in animals. Researchers in this patent understand the behavior of chloroquine resistant plasmodium PV with chloroquine, bark and leaves extracts of plant Azadirachta indica for their resistance reversal. Chloroquine is a first line treatment drugs for malaria all over the world. Whereas, 3-6 times chloroquine doses are not able to produce sufficient antimalarial effect in resistant PVs. An extract in a powder is used in many parts of the world, reported by hundreds of scientific works in malaria. Most of the pure plant extracts are also not able to produce minimal therapeutic response when given alone. Whereas, plant extract shows a better effect when given with minimal dose chloroquine than alone. Neem (Azadirachta indica) bark and leaves (oil) in pure form extracts (chloroquine), in ethanol extract dose ranges 500 mg/kg to 5000 mg/kg are able to reverse the chloroquine efficacy in combination with chloroquine 7 mg/kg to 70 mg/kg. Azadirachta indica bark extract (oil) in hexane extracts (chloroquine) and ethanol extract at higher strength 1000 mg/kg produce efficacy than 500 mg/kg dose group. Overall effect ranges between 500 mg/kg to 1000 mg/kg. The combination of multi drug resistant strain of plasmodium supported here in the research to using antimalarial plant extracts during regular medical treatment to achieve better antimalarial results in the clinical manifestations of malaria and to avoid development of resistance against the used drugs. Also referring medicinal plant extracts in combination and dosage also with prophylactic (preventive) malaria & malaria treatment or food and for malaria cell. The invention gives a path for inclusion of herbal extracts or herbs as sole treatment or resistance breaker food for malaria.

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