47.011

A Study of Complicated Falciparum Malaria and Efficacy of Arteether in Children in Endemic Area of India

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Malaria has re-emerged as main public health problems. In tropical countries resulting in significant morbidity and mortality. *Plasmodium falciparum* is responsible for potentially fatal infections.

Aims and Objectives:

(1) To evaluate the efficacy of Arteether in the treatment of complicated malaria
(2) To analyze clinical spectrum of hospitalized cases of falciparum and virex malaria.

Material and Methods: The study at Urban Private Hospital Patients with pyrexia and slides positive for *P. falciparum*. Out of 75 patients 24 were children with complicated malaria. A dose of Arteether (2.5 mg/Kg.) once daily by intra-muscular injection for 3 consecutive days, patients remained hospitalised,the therapeutic response was assessed on clinical parameter and smears for parasites.

Results: Out of 75 smear positive 24 children of complicated malaria. 1 to 17 year age, clinical symptoms fever, hyperpyrexia 100%, vomiting 40%, headache 15%, icterus 35%, alerted sensorium 25%, oligourea 10%, bleeding 5% weakness, bodyache, loss of appetite,insomnia. Splenomegaly and hepatomegaly > 2 cm in 82% and 78%. serum bilirubin > 3 mg% and elevated SGOT, SGPT > 3 times, serum cretanin > 3 mg% and blood urea > 40 mg% renal failure. Severe anaemia Hb < 5 mg%. Complicated falciparum malaria with jaundice and hepatic dysfunction.33.3%,cerebral malaria 25%, renal failure 13.3%, haemoglobinria 0.4%, severe anemia with symptomic involvement 33.3%.

The therapuetic response was assessed on clinical parameters and smears for parasites. Level of consciousness started improving with in 24—48 hours and full consciousness 48 to 72 hour Fever clearance 24 to 48 hours. Serum bilirubin levels start decreasing 3 days normal within 7-days. Serum creatinine normal within 7 days Anemia in children with arteether patient responded well. Splenomegaly regressed in one month, parasitic clearance with arteether within 2 days, in 22 patients four week 92% of cure rate in complicated *P. falciparum* malaria.

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47.012

The Effect of Cyclic Adenosine Monophosphate (cAMP) Modulators on the Activity of Selected Anti-Malaria Drugs

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Background: Malaria is a major global health problem with high mortality rates especially in children below five years of age. A severe limitation of chemotherapy is the rapid emergence of resistance to most available anti-malarials. Because of the slow development of new effective anti-malarials, an alternative strategy is therapy optimization using existing drugs. Combination therapy has been shown to delay the onset of resistance and improve the efficacy of treatment. This study's objective was to establish the activity of several cyclic Adenosine Monophosphate (cAMP) modulators as potential components of combination therapy.

Methods: The cAMP modulators; forskolin, Sp-adenosine 3′ 5 cyclic monophosphorothiate triethylammonium salt, 9-cyclopentyladenine and 2′ 5′ dideoxyadenosine 3′ monophosphate were tested in vitro in combination with chloroquine, quinine, mefloquine, amodiaquine and doxycycline against the chloroquine sensitive strain (D6) and the chloroquine resistant strain (W2) of Plasmodium falciparum. Parasite susceptibility testing was performed using a semi-automated micro-dilution technique. The Inhibitory Concentration at 50% (IC50) was calculated for each drug and in fixed combinations. Isobolograms were plotted using the calculated Fractional Inhibitory Concentration at 50% (FIC50).

Results: One of the AC-inhibitors, in combination with quinine showed synergistic interactions at all concentration ratios for both the D6 and W2 strains (FIC50s < 0.92 at all concentrations). The other anti-malarial/cAMP modulator combinations demonstrated a range of responses but mainly exhibited antagonistic interactions.

Conclusion: These in vitro findings suggest that the AC inhibitor, 2′ 5′ dideoxyadenosine 3′ monophosphate, potentially enhanced the anti-malarial activity when combined with quinine and should be further evaluated. The other anti-malarial/cAMP Modulator combinations did not show the same potential.

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IgG Profile Against MSP3 Antigen in Asymptomatic Carriers of *Plasmodium faliciparum* in Eastern Sudan

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Backgroud: Malaria is an important cause of morbidity,however not everyone infected with the parasite develops clinical symptoms. Naturally acquired immunity to malaria varies considerably between geographical regions due to different parasite strains and transmission intensities which affect the selection of vaccine targets. Merozoite surface protein 3 (MSP3) is a polymorphic antigen induces immune response. This study measured the presence of antibodies to *P. falciparum* MSP3 recombinant antigen in plasma from asymptomatic individuals in relation to protection from malaria during the transmission season.

Methods: The study was conducted in an area of seasonal transmission on a cohort of 114 asymptomatic sub-patent *P. falciparum* carriers who were examined for the presence of IgG, IgG1 and IgG3 by ELISA. The cohort was treated