



Pre-hospital chloroquine treatment predicts poor outcome in childhood severe malaria in Ibadan

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Background / Objective



Background

- Early diagnosis and prompt treatment including appropriate home-based treatment of malaria is a major strategy for malaria control.
- Compliance and adherence to recommended regimen may affect the clinical outcome.
- Home-based malaria treatment often fails however there is insufficient evidence on how this contributes to outcome of severe malaria.

Objective

- To evaluate the effects of pre-hospitalization chloroquine use on the morbidity and outcome of severe malaria cases in children admitted to the paediatric emergency units in Ibadan.



Methods (1)



- Design
 - Prospective case control study
 - Cases – severe malaria patients treated at home with chloroquine
 - Controls – severe malaria patients who had no treatment at home
- Setting
 - The hospital is located in Ibadan, an urban city in the south-west of Nigeria, area of malaria hyperendemicity.
- Data collection and analysis
 - Structured questionnaire used, WHO criteria used to select patients.
 - Malaria defined as microscopy positive blood smear
- Ethical issues
 - approval was obtained from the University of Ibadan/University College Hospital ethical review committee
 - Informed consent obtained from patients/care-givers.



Results (1)



- 268 children with severe malaria were studied, 114 cerebral malaria (cm) and 154 severe malarial anaemia.
- Of the 91 who had chloroquine at home, 43.0% had CM compared with 27.3% of those without home treatment (OR=2.01, 95% CI=1.20, 3.36).



Results (2)



Risk Estimates for Death in Patients

<i>Drug Given</i>	<i>Died</i>		<i>Survived</i>		<i>Total</i>	
Chloroquine	12	66.7	80	32.0	92	34.3
No Chloroquine	6	33.3	170	68.0	176	65.7
Total	18	100.0	250	100.0	268	100.0

OR=4.25, 95% CI=1.54-11.7



Results (3)



Logistic Regression Model for Potential Predictors of outcomes in Severe Malaria

<i>Factors</i>	<i>B</i>	<i>S.E</i>	<i>p</i>	<i>Exp(β)</i>	<i>95% CI</i>
Chlorquine (Yes vs No)	1.377	0.527	0.009	3.963	1.41-11.13
Age (months)	0.005	0.012	0.656	1.005	0.98-1.03
CM vs SMA	0.625	0.514	0.224	1.869	0.682-5.12
Constant	-1.194	1.486	0.422	0.303	-



Discussion & Conclusions



- Our findings show that home treatment with Chloroquine significantly impacts on morbidity and outcomes of severe malaria.
- There is increased risk of cerebral malaria and death if a child was treated with chloroquine at home



Future perspectives



- Our data underscores the need for wide-scale monitoring to remove Chloroquine from circulation in Nigeria.
- Efforts should also be directed at promoting prompt treatment with effective medicines in the community.