

Single dose pharmacokinetics of primaquine in children with p.vivax malaria

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Primaquine, an anti-malarial drug is given to prevent malaria relapses and data on its pharmacokinetics is lacking in children. We studied the pharmacokinetics and safety of a single oral dose of Primaquine (0.3mg/kg) in normally nourished and malnourished children with P.vivax malaria. After IRB approval and consent or assent, children were classified as normally nourished (Group I) and those with Protein Energy Malnutrition (PEM, Group II) according to Indian Academy of Pediatrics classification. Five ml blood samples were collected predose and at 1, 2, 3, 4, 6, 8 and 24 hrs post dose. Plasma Primaquine concentration was analyzed by High Performance Liquid Chromatography (HPLC) and PK Solutions 2.0™ Non Compartmental Pharmacokinetic Data analysis software was used for analysis.

The single dose was safe. Overall, no significant difference in pharmacokinetics between normally nourished and under nourished children was found between Groups I and II (9.65 ± 4.74 , 13.02 ± 12.8) and AUC (0- α)(ng.hr/ml) (78.71 ± 35.53 , 180.73 ± 256.47) respectively. However, when this data was compared to results from another study in adults, we found that the dose adjusted Cmax [Adults 2.90 ± 1.8 ng/ml] and AUC (0- α) [adults 24.1 ± 12.88 ng.hr/ml] was significantly higher in children irrespective of nutritional status suggesting the need to reduce the pediatric dose.

Biography

Sarfaraz R. Momin is currently pursuing his MD in the field of pediatrics at Seth G.S. Medical college and KEM Hospital, Mumbai, India. He has completed his MBBS from Karnataka Institute of Medical Sciences (KIMS), Hubli, India. He stood first and second in his institution in first and final year of MBBS respectively. He was also the topper in Physiology, Pediatrics and Obstetrics and Gynecology subjects in his institution. He has secured Distinctions and was topper throughout his schooling. He has presented two cases in the metabolic liver conference held in Mumbai in 2012.

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