

Increased Urinary Frequency Due to *P. Falciparum* Infection - A Case Report

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Dear Editor,

Malaria is a disease known since times immemorial. In endemic zones it is known to present in many unusual forms. Increased urinary frequency as a complication of *P.falciparum* infection is quite rare. We hereby report a case of *P.falciparum* malaria presenting with increased urinary frequency.

A nine-year-old male child presented to the out patient department with complaints of high grade fever and increased urinary frequency since last three days. He was passing small amounts of urine about ten times a day. On admission the patient was febrile, dehydrated, the systemic examination revealed a liver of 4cm and a firm spleen 6 cm in size. No other abnormality was found on systemic examination. Investigations revealed a Hb of 6.2gm/dl, Total Leucocyte Count of 10,000/cumm with a differential count of 50% neutrophils, 44% lymphocytes, 6% monocytes, 1% eosinophils, platelet count 2.53 lacs/microlitre of blood, Erythrocyte Sedimentation Rate (ESR) 10mm at end of first hour. Blood sugar at the time of admission was 82mg/dl and the fasting blood sugar was 90mg/dl. Other investigations like serum electrolytes, 24 hour urinary output, arterial blood gas analysis, serum calcium, renal and liver function tests were normal. Peripheral blood examination revealed gametocytes and trophozoites of *P.falciparum*, Quantitative Buffy Coat Smear (QBC) was positive for *P.falciparum*. Parasite density was 3%. Urine routine examination was normal and was negative for albumin, ketone and sugar. Urine culture was sterile. Urine calcium creatinine ratio was 0.01(Normal value is <0.2). Ultrasound of abdomen was normal. Artemisinin derivatives were started at dosages of 2.4mg/kg, the patient was managed according to Indian academy of paediatrics (IAP) guidelines for treatment of *P.falciparum* malaria. The patient became afebrile on fourth day, urinary symptoms also resolved by fourth day. A repeat smear done on fifth day was negative for malarial parasite. On follow up the patient was fine and had no urinary complaints.

In endemic zone malaria is known to present in an unusual manner possibly due to development of immunity, resistance and indiscriminate use of anti-malarials. All possible causes of increased urinary frequency were ruled out added to it the patient's symptoms resolved on starting anti malarial treatment. Hence it is quite possible that our patient's urinary symptoms were due to malaria itself. Zaki et al., have also reported a similar case [1]. Singh et al., have also reported a case of increased urinary frequency due to *P.falciparum* malaria [2]. Involvement of the renal system is a well known complication of *P.falciparum* infection. Cyto adherence and sequestration play an important role in the pathogenesis of *P.falciparum* infection. The possible reason for increased urinary frequency in our patient could be due to sequestration of parasite in the detrusor muscle leading to bladder irritability. To the best of our knowledge there are a few reported cases of *P.falciparum* malaria presenting as increased urinary frequency [1-3]. Since the disease has varied presentations it would be worthwhile to keep in mind this unusual presentation of *P.falciparum* infection. We have reported this case to sensitize our fellow paediatricians to this unusual presentation of a common disease.

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