Case Report

Psychosis in a Child Infected with Vivax Malaria: A Case Report

Paediatrics Section

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ABSTRACT

Several neurological complications are associated with complicated and severe falciparum malaria. However association of these neurological manifestations with malaria remains doubtful [3]. We report a case of acute malaria in a seven year old girl presenting with seizures with features of psychosis. Her blood film showed Plasmodium Vivax trophozoites which is unusual. The case is being is being discussed.

Key Words: Psychosis, Vivax malaria

INTRODUCTION

Malaria is one of the most common infectious childhood illnesses, affecting more than 300-500 million reported children globally every year, of which more than one million cases result in death. Most malarial deaths occur among infants and young children [1]. Four species of Plasmodium, P. vivax, P. falciparum, P. ovale and P. malariae cause nearly all the malarial infections in humans.

Of the four species, falciparum is the most dangerous , since it causes more severe manifestations which culminate in multi system failure. Several neurological complications are associated with complicated and severe falciparum malaria, which is rarer than other forms of malaria [2]. The common central nervous complications of acute malaria are febrile convulsions and cerebral malaria. Psychosis which arises from acute vivax malaria is rare and unusual. However, it may complicate cerebral malaria or manifest after the recovery from unconsciousness [3-5]. Fever and anti malarial drugs like chloroquine and mefloquine have been associated with psychosis in children with acute malaria [6, 7].

CASE REPORT

A seven year old female child presented with a four day history of high grade fever with rigors and cough. On the day of admission, she had three attacks of intermittent generalized seizures with inter ictal dullness. She was treated locally with antibiotics and antipyretics and not with anti malarial drugs. There was no family history of any psychiatric illness and the child was neurologically and mentally normal before she was attacked by the acute disease.

The examination showed a conscious but a febrile and an irritable child. She had mild pallor. Her central nervous system examination showed that she was a conscious child with normal cranial nerves and no neurological deficits. There were no signs of meningeal irritation. Other systemic examinations were normal. In view of fever with repeated seizures, neuroinfection was suspected.

Her blood count showed haemoglobin -9.5 gm%, RBC- 3.49m/cmm, WBC- 3.2×10^3/cmm and platelet- 60×10^3/cmm. The peripheral smear study showed pancytopaenia with microcytic, hypochromic anaemia. Her CSF analysis and CT brain was normal.

She was started on intravenous fluids at a maintenance rate with intravenous cephalosporin, phenobarbitone and oral acetaminophen.

On day two, she developed high grade fever with abnormal behaviour. She was shouting and had acute lack of any recognition and orientation of her parents. She had intermittent visual hallucinations of insects and worms crawling on her body. The psychiatric opinion was acute delusion. She continued to display the same symptoms on the third day also. Her repeat peripheral smear study showed Plasmodium vivax trophozoites on the fourth day.

She was treated with injectable Artemether and oral quinine. For her psychotic behaviour, she was put on IV diazepam. Her fever started receding, with a drastic reduction in her abnormal behaviour within the next twenty four hours. She was discharged on the seventh day.

DISCUSSION

Psychosis associated with malaria is a rare presenting symptom in children [8,9]. Many studies have shown that psychiatric manifestations in children with malaria could be due to hyperpyrexia, they may be a part of cerebral malaria, may be due to the anti malarial drugs which are administered or they may be presenting as the post malaria neurological syndrome (PMNS) [3,5,7,8,9,10,11].

The mechanism of the induction of psychosis and the pathogenesis of neurological manifestations in malaria remain unclear and precise documentation is scanty [10] in these respects. Malarial psychosis could develop due to encephalopathy in patients with cerebral malaria. In the acute stages, it manifests as paranoid and manic syndromes, depression being the late sequel [8].

The psychosis in our patient was probably induced by Plasmodium vivax malaria, which corroborates with other research studies [3,4,12]. The child had not received any anti malarials like chloroquine or mefloquine before admission and so, drug induced psychosis was ruled out. Mefloquine- induced neuropsychiatric events are extremely rare in children, as was noted by Thapa et al [13]. Other infectious diseases like meningitis, encephalitis or typhoid fever are associated with confusional states which mimic malaria induced psychosis [3,5]. These were excluded by clinical presentations and appropriate investigations. Hyperpyrexia as the

cause for psychosis in our case was unclear, she did not have psychosis at the onset of hyperpyrexia.

Malaria induced psychosis is a rare entity [6,7,12]. Neurological involvement is more frequent with falciparum malaria, but it can be seen in the vivax malaria cases also [12]. Awareness regarding the malaria infection and the fact that the antimalarials which are used in the management of malaria could cause psychosis is essential.

Due to the paucity of investigative facilities in the peripheral areas of the tropical and the sub tropical regions where malaria continues to be endemic, a clear knowledge about malaria and its psychotic manifestations in childhood is very essential. It is essential that the peripheral paramedical staff should be educated about such manifestations, so that these symptoms are not mistaken for para normal influences.

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