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Medicine

Various Clinical Presentations of Falciparum Malaria and Outcome: A study of 100 Patients

1. Piyar Ali Fazel 2. Babar Bashir 3. Akhtar Ali Baloch 4. Munir Hussain Siddiqui 5. Muhammad Tahir 6. Syed Mohsin Turab 7. Jawad-us-Salam 8. Uzma Majid

1. Asstt. Prof. 2. Asstt. Prof. 3. Assoc. Prof. 4. Asstt. Prof. Dept. of Medicine, DIMC, DUHS, Karachi
5. Sen. Registrar Medicine, Polyclinic, Islamabad 6. Assoc. Prof. of Pharmacology & Therapeutics, HCM&D, Hamdard University, Karachi 7. Asstt. Prof. of Neurology, DIMC, DUHS, Karachi
8. Asstt. Prof. of Medicine, DIMC, DUHS, Karachi

ABSTRACT

Objective: Various clinical presentations of Falciparum Malaria and outcome. Malaria is an important disease worldwide, result in estimated 300-500 million new cases and 1.5-2.7 million deaths per year. Most deaths occur due to Plasmodium Falciparum infection. Falciparum malaria is a major community problem in our country. Presentation of falciparum malaria with paroxysms of fever chills& rigors are easy to diagnose and treat.

Study Design: Case series study.

Place and Duration of Study: This study was conducted at DUHS from January 2011 to December 2011.

Materials and Methods: 100 patients above 12 years of age with any gender, presenting with high grade fever and diagnosed as a case of Falciparum malaria on thick and thin film are included in this study.

Results: Among 100 patients 69 were male and 31 females. Clinically all patients presents with fever, while 69 with headache, 39 with vomiting and 28 with altered level of consciousness. The most common sign was anemia i.e. in 40 patients, splenomegaly in 37, and jaundice was found in 35 patients. 7 patients were expired during the study.

Conclusion: Falciparum malaria is a notorious for various presentations which may mimic like upper and lower respiratory tract infection, acute gastroenteritis and bacterial meningitis. The treating physician should be aware of the various presentations because early detection and treatment may reduce the morbidity and mortality associated with Falciparum malaria.

Key Words: Falciparum Malaria, splenomegaly, gastroenteritis, bacterial meningitis

INTRODUCTION

Malaria is a an important disease worldwide[1], results in estimated 300-500 million new cases and 1.5-2.7 million deaths per year[2] and estimated 349-552 million clinical cases recoded with falciparum malaria in 2007[3]. Most deaths occur due to Plasmodium falciparum infection[4]. Reason for increasing mortality in falciparum malaria are multiple drug resistance[5, 6,] lack of effective vaccination[7], no appropriate chemoprophylaxis and various complications[8]. Malaria is hyperendemic in Pakistan[9]. Falciparum malaria is a major community problem in our country. It has high morbidity and mortality with various manifestations[10]. The incidence of malaria is on the rise for the last two decades in Pakistan[11]. The cultural diversity and poverty presents particular challenge[12].

A clinical presentation of falciparum malaria varies from asymptomatic to multiorgan failure and death depending on host factor e.g. (immunity, age), parasite load e.g. (plasmodium species) and geographic location (inoculation rate) [13.]Presentation of falciparum malaria with paroxysms of fever, chills& rigors are easy to diagnose and treat. Falciparum malaria is a multisystem disorder and it may have unusual presentation with symptoms suggestive of upper lower respiratory tract infections including active lung injury[14], meningitis[15], acute hepatitis including fulminant hepatic failure[16], acute renal failure[17]&acute gastoentritis[18], other presentations like neuropsychiatryic symptoms, gullainBarrie syndrome[19], psychosis[20] has also been reported.

Since falciparum malaria is common in our country it is therefore important to collect data locally for early diagnosis and hence effective and recommended treatment[21,22] of these patients to prevent serious complications and high mortality, with this aim this study was conducted in medical wards of civil hospital Karachi. In this study we evaluate certain clinical presentations, mortality and morbidity of falciparum malaria.

MATERIALS AND METHODS

This was a case series study which included 100 patients from DUHS Karachi. The study was conducted from January 2011 to December 2011.Patients above 12 years of age of either sex, presenting with high fever & diagnosed as a case of falciparum malaria on thick & thin film are included in this study. Patients with high grade fever but blood film negative for falciparum malaria, case of malaria which infected with other

species of plasmodium malaria(ovale, vivax & malariae) and patients with proven systemic infections other then malaria were excluded from the study.

Data Collection Procedure: After taking informed written consent, detailed history, clinical examination was done. All the information and finding was noted on Performa. Only those patients were included that were positive for falciparum malaria, to rule out alternative diagnosis blood, sputum, urine and stool cultures were done, LFTs, Viral markers, UCE were done as and where required.

RESULTS

Among 100 patients 69 were male and 31 were females with 2.23: 1 male to female ratio. The average age of the patients was 37.49+-16.10 years(range 15 to 73 years) & 95% confidence interval was 34.3 to 40.68.Age distribution according to gender is presented in (table no: 1). Clinical presentations of the patients with falciparum malaria, fever was present in all patients, headache was in 69 patients, vomiting 39 patients, body aches 35 patients, altered level of consciousness in 28 patients (table no: 2).

Table No. 1: Age distribution according to gender (n-100)

Age Group	Male (69 Patients)	Female (31 Patients)
15- 25	18	10
26- 35	17	08
36-45	14	06
46- 55	14	04
56- 65	04	03
66- 75	02	00

Table No. 2: Clinical presentation of Falciparum Malaria (n-100)

Clinical Presentaion	No: of Patients
Fever	100
Headache	69
Vomiting	39
Body aches	35
Altered consciousness	28
Fatigue	21
Muscle pain	15
Fits	09
Nausea	08
Diarrhea	08
Cough	07
Oliguria	04
Dark colour urine	01

The most common sign was anemia in 40 patients, splenomegaly in37 patients, jaundice in 35 patients, hepatomegaly in 23 patients (table no: 3). Seven patients were expired among them 5 were males and 2 were females, these patients had not received medications for malaria prior to admission and late presentation in tertiary care hospital, all these patients received recommended Antimalarial therapy along with supportive management during admission in tertiary care hospital. Ninety three patients were improved without any complications (table no: 4).

Table No. 3: Signs of the patients with Falciparum Malaria (n-100)

Signs	No: of Patients
Fever	100
Anemia	40
Splenomegaly	37
Jaundice	35
Hepatomegaly	23
Abdominal tenderness	20

Table No. 4: Outcomes of the Patients with Falciparum Malaria (n-100)

Total No: of Patients	Expired	Survive without Sequelae
100	7	93

DISCUSSION

Malaria is the most common parasitic disease of humans causing hundreds of millions of illness and probably a millions deaths each year [22]. Among four species of plasmodium malaria falciparum is responsible for nearly all severe disease. Falciparum malaria is multisystem disorder it can mimic many disease and there are no absolute diagnostic clinical features. Apart from clinical features lots of patients were seen with various different presentations. This study clearly shows that males were affected more than females and this also supported by Mahmood K et al [10], Krishna et al[4]. The major presenting features were fever in all 100 patients, headache in 69 patients, vomiting were in 39 patients, body aches in 35 patients and abdominal pain were in 18 patients, similar presentation has been also noted by Mahmood K et al [10]and they reported fever 100%, vomiting 29.62%, bodyaches 43.5% and abdominal pain in 21.29% and these results are closely matched in our study. Another study by Bhalli MA et al [23]had also reported similar results in their study, they shows fever 100%, vomiting 31%, body aches 22% and headache 30%. The most frequent signs noted in this study were Fever in 100 patients, Anemia in 40, spleenomegally37, jaundice 35, hepatomegaly in 23 and abdominal tenderness in 20 patients and these signs are comparable with other studies like Mahmood K et al [10]they reported anemia 17%, jaundice 36%, splenomegaly 15%, similarly Kocher DK et al [2] has reported anemia 26.3%, jaundice 47.8%, hepatomegaly 13.15% and splenomegaly in

12.63%. Cerebral malaria is the most prominent feature of falciparum malaria. In our study 28% patients presented which is comparable with the study by Bhalli MA et al [21]they reported 26%, 11% in Kocher DK study [2] and Krishna A et al [4] reported 34.2% patients. Seizures are complication of malaria due to falciparum malaria, in our study we noted in 9% of patients similar results observed in other study [2]. Diarrhea was observed in 8% patients which is closely matched with other studies [24, 5]they reported in 7% and 5.64% patients. Cough was noted in 7% in our study while in other studies [10, 4]it was 7.4%. Acute renal failure is a common complication of falciparum malaria particularly in adults residing in low or unstable transmission areas. In our study 4% of patients with Oliguria that is closely matched with Kocher DK et al [2] they reported in 6.3% of patients. In our study overall mortality was 7% which is closely matched with Kocher DK et al [2]reported in 4.5%. Another study done by Krishna A et al [4]has reported 24%, reason for this high mortality might be longer duration of illness, late presentation or delay in start of treatment. The relatively low mortality rate in our study may partly reflect the nature of organ failure and efficacy of antimalarial therapy. We believe that to a large extent, the low mortality rate also may due to facilities available in the intensive care units where patients were treated. It is likely that outcome may be worse in rural and smaller hospitals with lesser facilities and expertise.

CONCLUSION

Falciparum malaria is notorious for various presentations which may mimic like upper and lower respiratory tract infections, acute gastroenteritis, acute hepatitis, fulminant hepatic failure and bacterial meningitis. The treating physician practicing in malaria endemic countries like Pakistan should be aware of the various presentations of falciparum malaria and infect this diagnosis should be considered in every febrile patient. Early detection of parasite and treatment may reduce the morbidity and mortality associated with falciparum malaria.

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Address for Corresponding Author:
Dr. Piyar Ali Fazel
Assistant Professor of Medicine,
Dow International Medical College,
Dow University of Health Sciences,
Karachi.