

A STUDY OF CLINICAL PROFILE OF MALARIA

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ABSTRACT

Background: Malaria, the disease of the ancient past, has proved to be an alarming restraint to the cultural and socio-economic development of man in tropical, subtropical and monsoon prone zones of globe. As P. Falciparum malaria is associated with most serious complications, diagnosis of it constitutes a medical emergency. One of the most prominent problem in managing the morbidity and mortality caused by malaria is limited access to efficacious diagnosis and treatment in regions where malaria is endemic. **Material & Methods:** In present prspective study 50 patients of malaria of age above 12 years were included. Written informed consent and ethical approval was appropriately sought before the study. After taking detailed history, clinical examination and hematological investigation was done as mentioned in Performa. **Results:** Out of 50 cases of malaria, 41 cases (82%) had P. falciparum and 8 cases (16%) of P. vivax. In 1 case (2%) suggesting mixed infection. headache and body ache found in 49 patients (98%), followed by nausea and vomiting in 28 patients (56%). weakness was present in 24 patients (48%) and abdominal pain in 11 patients (22%), 41 cases (82%) were having hyperbilirubineamia, 40 (80%) cases having thrombocytopenia. Splenomegaly present in 14 (28%) cases; hepatomegaly was present in 13 (26%) cases and 10 (20%) cases had hepatosplenomegaly. **Conclusion:** Plasmodium falciparum infection was common than Plasmodium vivax infection. All had fever, majority had high grade, associated with rigors and nausea and vomiting. The patients also had anemia, thrombocytopenia, liver function derangement and impaired renal functions.

Key words: Complications, Malaria, P Falciparum, P Vivax.

INTRODUCTION

Malaria, the disease of the ancient past, has proved to be an alarming restraint to the cultural and socio-economic development of man in

tropical, subtropical and monsoon prone zones of globe (1). As P. Falciparum malaria is associated with most serious complications, diagnosis of it

constitutes a medical emergency. One of the most prominent problem in managing the morbidity and mortality caused by malaria is limited access to efficacious diagnosis and treatment in regions where malaria is endemic (2). Microscopic examination of blood smear is widely used routine method for detection of malaria parasites and remains the gold standard for malaria diagnosis. Owing to the paucity, very few studies were undertaken on the burden of malaria in urban India retrospective (3). Malaria is threat to global health. Estimation of population at risk of the disease have been upgraded to between 2.5 and 2.6 billion, and the number of annual infections to 130 to 435 million (4).

Malaria is caused by Plasmodia, transmitted to human beings by bite of infected female Anopheles mosquito. It comprises of three stages cold stage, hot stage and sweating stage. Clinical picture vary from mild to severe, & complicated, according to species of parasite, patient state of immunity, intensity of infection & concomitant condition like malnutrition & other diseases. The febrile paroxysms occur with definite intermittent periodicity repeating every third or fourth day depending on species of parasite involved. Out of these four species, Plasmodium vivax and Plasmodium falciparum are more common in India. Malaria is chiefly characterized by high grade fever with rigors. On examination anemia and splenomegaly are commonly found. In case of Plasmodium vivax and Plasmodium malariae, there would be chronic relapsing course (5). The clinical presentations of malaria are extremely diverse and can mimic a wide variety of disease. In some cases, a clinical diagnosis of malaria is possible especially in endemic areas. However a definitive diagnosis can be established only on demonstrating malarial parasite or its products in blood (6).

Malaria has re-emerged as a major health problem in India. One of the important problems in controlling malaria is limited access to effective diagnosis and treatment. Science still has no magic bullet for malaria and many doubts whether a single solution will ever emerge.

Towards this end present prospective study was conducted to draw the clinical profile picture of malaria.

MATERIALS & METHODS

The present study was carried out in indoor patient at Dhiraj General Hospital and Medical College, Piparia from August 2016 to August 2017 on 50 patients of malaria of age above 12 years. Written informed consent by the study subjects was taken and ethical approval was appropriately sought before the study. After taking detailed history, clinical examination with stress laid on fever, headache, abdominal pain, bodyache, weakness, fatigability, nausea, vomiting, urinary complaint, cough, anemia, icterus, dehydration, altered sensorium, convulsion, hepatomegaly, splenomegaly was done as mentioned in Performa. Thick and thin smear examination for determining the species of Plasmodia and the level of parasitemia. The hematological investigation included hemoglobin, total leucocytes count, differential leucocytes count, platelet count, peripheral smear examination, type of anemia, erythrocyte sedimentation rate.

The urine analysis consists of urinary albumin, sugar and microscopy. Other investigations done are x-ray chest in all the patients and serum electrolytes, urea, liver function tests as and when required. The data were analyzed using MS Excel 2010, Epi Info v7 and SPSS v22.

RESULTS

In the present study of 50 cases of malaria there were 27 males and 23 were females. In the present study of 50 cases of malaria, 41 cases (82%) had P. falciparum malaria. In 8 cases (16%) it was P. vivax. In 1 case (2%) along with P. falciparum malaria there was also P. Vivax suggesting mixed species infection.. (Table-1) Majority of the patients 46 (92%) presented with high grade fever, only 4 (8%) patients had low grade fever. In 46 (92%), the patients fever was intermittent type and 4(8%) was continuous type. In 29 (58%) there were no rigors, only 21 (42%) patients had rigors.

Table No.-1: Showing the Species of malaria

Species of malaria	No .	Percentage
P. Falciparum	41	82%
P. Vivax	8	16%
P. falciparum + P. vivax	1	2%

Table No.-2: Showing type and pattern of fever

Fever	No.	Percentage
Grade		
High	46	92%
Low	4	8%
Rigors		
Present	21	42%
Absent	29	58%
Type		
Intermittent	46	92%
Continuous	4	8%

Most presenting symptom was headache and body ache in 49 patients (98%), followed by nausea and vomiting in 28 patients (56%). weakness was present in 24 patients (48%) and abdominal pain in 11 patients (22%). Head ache and Body ache was not present only in 1 (2%) cases followed by Nausea and vomiting was absent in 21 (42%) cases, weakness was absent in 26 (52%) cases. and 39 (78%) cases was not having Abdominal pain.

Splenomegaly was the most common finding, present in 14 (28%) cases; hepatomegaly was present in 13 (26%) cases. In 10 (20%) cases there was Hepatosplenomegaly. And surprisingly there was no spleen or liver palpable in 13 (26%)

cases. Total 41 cases (82%) were having hyperbilirubineamia. In 2 (4%) cases of there was bilirubin count more than >3 gm%, icterus was present in these patients.

Table No.-3: Showing type and pattern of fever

Sr. No	Symptoms	No.	Percentage
1	Headache and Body ache	49	98%
2	Weakness	24	48%
3	Nausea & vomiting	28	56%
4	Abdominal Pain	11	22%

Table No.-4: Showing Organomegaly in the patients

Sr. No	Symptoms	No.	Percentage
1	Splenomegaly	14	28%
2	Hepatomegaly	13	26%
3	Hepatosplenomegaly	10	20%
4	No organomegaly	13	26%

There were 40 (80%) cases having thrombocytopenia. In the patients studied there were no cardio vascular symptoms. In our study all the patients were having Urea level within normal limits and normal serum creatinine values were present in 26(52%) of cases. All the patients were treated adequately, no other complications were present and No mortality was observed in our study.

DISCUSSION

Malaria is the commonest parasitic disease in world. It is also an increasing public health problem, especially with the emergence of resistant strains of Plasmodia, in the developing countries. More than half of world population lives in the shadow of this disease and Plasmodium falciparum is the most prevalent species. In our study, out of 50 patients 27 (54%) cases were male and 23 (46%) cases were female. Out of 50 cases of malaria, 41 (82%) cases were of P.falciparum, 8 (16%) case were of P. vivax and 1 (2%) case was of mixed infection. Our study is comparable with the study carried out by Kashinkundi D et al, 50(52.6%) patients had vivax and 45(47.3%) patients had falciparum (7). Nadkar M et al carried out study in which out of 711 patients, 488 had vivax and 223 had falciparum malaria (8). Most of the studies showed high prevalence of P. vivax malaria and in few studies the P. falciparum was the commonest species. This variability may be due to either selection of the cases or the predominance of the species in the area studied.

Fever was most presenting symptom in our study, it was present in 100% of cases, and majority of the patient presented with the high grade fever and 44% of patients had rigors. The second most common symptom in our finding was head ache and body ache accounting for 98% of cases followed by nausea and vomiting in 66% of cases. Other symptoms includes abdominal pain, which was present in 25% of cases, 33% of cases had complains of cough and loose stool in 24% of cases. Icterus was present in 6% of cases and weakness in 5% of cases. 2(4%) cases had jaundice, both cases had P.falciparum infection, there was positive relation with the parasite count, parasite count was high in both the cases, hemoglobin was decreased in both the cases. Taviad P et al, studied in which fever was present in 100% of cases, 84% of patient had high grade fever and in 28% it was associated with rigors. Other symptoms present in this study were altered sensorium in 16% of cases, convulsions in 10% of cases and bleeding tendencies was present in 8% of cases (9). In study carried out by Dabadghao V et al, found that Fever was present in 100% of patients. It was of intermittent type coming every day at an interval of 24 hours. Malaise and

bodyache were observed in all patients. Vomiting was seen in 10 patients (10%) and malaena was reported by 5 patients (5%), 30 patients (30%) reported yellowish discolouration of sclera while 15(15%) reported decreased urine output (10).

40 patients out of the 50 in our study, had platelet count below 1lac/cumm, which were considered to have thrombocytopenia. Similar to our study Gupta B et al also found significant thrombocytopenia (p value < 0.05) among 60 confirmed cases of malaria (11). Hyperbilirubineamia was present in 82% of cases in our study. The level of urea was within normal limits in all the patients. In 4 (8%) patients albuminurea and the maximum creatinine level observed was 5.6 mg% in only one (2%) patient. Similar to present study Arévalo-Herrera M et al found mild-to-moderate alterations in bilirubin levels [TB (11%), DB (16%)] were found mainly in patients infected with P. vivax (p < 0.01), with a positive correlation between TB levels and parasitaemia (rs = 0.155; p < 0.0001). In contrast, abnormal transaminases (ALT and AST) from mild-to-moderate levels were more frequent in P. falciparum patients than P. vivax (14% vs 8%; p < 0.05). Renal function parameters showed mild alterations in creatinine (26%) and BUN (5%), with similar distribution between parasites species. Proteinuria was observed in 54% P. falciparum patients and 47% with P. vivax (p = 0.014), and it was associated with creatinine levels >1.5 mg/dL (p = 0.013) (12).

In the present study of 50 patients, Splenomegaly was present in 14 (28%) of patients, followed by hepatomegaly in 12 (24%) of cases, hepatosplenomegaly in 10(20%) of patients and in 14 (28%) patients was not palpable. Splenomegaly was present in 56% of cases and Hepatomegaly in 46% of cases. Similar findings seen in study conducted by Kulkarni V et al 2017, they found that hepatomegaly and splenomegaly in 15 (5%) patients. There was a considerable difference seen between the presence and absence of signs in the patients diagnosed with malaria, most number of patients demonstrated the absence of signs (p < 0.0001) (13).

After confirmation of the diagnosis of malarial fever our patients were immediately given the

antimalarial drug therapy as described in detail in material and method. All patients had successful outcome. In our study no mortality was recorded. As sample size is small, the result of this study cannot be generalized to whole population. We could not document the long term outcome, relapse & recrudescence of malaria in our study as this was not follow up study.

CONCLUSION

We concluded from the present study that As compared to Males the number of female patients was less. Plasmodium falciparum infection was common than Plasmodium vivax infection. Of the various presentations in the patients, all had fever, majority had high grade, associated with rigors. Also another symptom was nausea and vomiting. The 24% patients had increased frequency of stool. None of our patients had convulsion. The patients also had anemia, thrombocytopenia, liver function derangement and impaired renal functions. We suggest more studies at different centers with the large number of cases to derive final conclusive is suggested.

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