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A clinical study on falciparum Malaria cases at a Tertiary care Hospital

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Abstract

Introduction: Malaria is a public health problem in several parts of the country. About 95% population in the country resides in malaria endemic areas and 80% of malaria reported in the country is confined to areas consisting 20% of population residing in tribal, hilly, difficult and inaccessible areas.

Methodology: All these patients were subjected to slide test for thick and thin smear as well as immunochromatographic test, ROT, Pan Malaria or Falci check. Blood investigations like hemoglobin level, total leukocyte count, differential count and serum electrolyte and also renal function tests, liver function tests, random blood sugar were done in all cases.

Results: fever present in 100% patients, 62% patients had gastrointestinal symptoms, 24% patients had symptoms of liver & biliary system, 8%patients had respiratory symptoms, 6% patients had genitourinary symptoms and 4% patients had symptoms of central nervous system

Conclusion: Fever, Shaking chills and splenomegaly still holds as a clinical trial in diagnosis of malaria.

Keywords: malaria, falciparum malaria, clinical profile

1. Introduction

Malaria is estimated to have a worldwide incidence in the order of 1500-2100 million clinical cases each year, which is mostly distributed in African, Asian and Latin American countries. But countries in the tropical Africa accounts for more than 80% [1].

Malaria is a public health problem in several parts of the country. About 95% population in the country resides in malaria endemic areas and 80% of malaria reported in the country is confined to areas consisting 20% of population residing in tribal, hilly, difficult and inaccessible areas.

The clinical manifestations of malaria are dependent on the previous immune status of the host. In areas of intense P. falciparum malaria transmission asymptomatic parasitaemia is usual in adults (Premunition). Severe malaria occurs in the first year of life in these areas. With lower or more seasonal or unstable transmission patterns the age distribution of severe malaria shifts upwards. P. falciparum is the most dangerous of the four malaria parasites. Incubation period is 9-14 days (average 12 days) [2].

Death from acute P. vivax, P. ovale or P. malariae infections is very rare. Occasionally already debilitated patients may succumb and fatal hemorrhage may follow a rupture spleen. On the contrary falciparum malaria is a potentially lethal infection. Any patient with asexual forms of P. falciparum in the peripheral blood who at the same time exhibits an acute brain syndrome (acute disorder of cerebral function) impaired or altered level of consciousness, focal or diffuse neurologic signs, for which no explanation can be found, he is labeled as having cerebral malaria (WHO 1986).

Malaria is diagnosed by microscopic examination of the blood smear. It is not a clinical diagnosis. Since one negative smear does not rule out malaria, repeat thick blood films should be taken at least every 6 to 12 hours for 2 days to exclude the diagnosis. Even bone marrow study may be required if blood smears are negative [3, 4].

2. Methodology

The clinical data of all case were gathered as per proforma appended. In all cases, a detailed history was taken. Detailed physical and systemic examination done. All these patients were subjected to slide test for thick and thin smear as well as immunochromatographic test, ROT, Pan Malaria or Falci check.

Blood investigations like hemoglobin level, total leukocyte count, differential count and serum electrolyte and also renal function tests, liver function tests, random blood sugar were done in all cases. Chest X-ray and cerebrospinal fluid examination were done wherever necessary. Urine examination was done in all the patients. Ultra sonogram of the abdomen and viral markers of hepatitis were done wherever found necessary.

a) Inclusion Criteria

- All cases of Plasmodium Falciparum malaria diagnosed by peripheral smear examination or by immunochromatographic test – Falci Check, Pan Malaria with pf or by Rapid optimal test.

b) Exclusion Criteria

- Patients taking hepatotoxic drugs
- Patients having evidence of liver disease prior to illness.
- Patients with history of alcoholism

3. Results

In the present study, fever present in 100% patients, 62% patients had gastrointestinal symptoms, 24% patients had symptoms of liver & biliary system, 8%patients had respiratory symptoms, 6% patients had genitourinary symptoms and 4% patients had symptoms of central nervous system.

Table 1: Incidence of the Distribution of Symptoms According to System

Symptoms	No. of Cases	Percentage
Fever	50	100.00
Gastrointestinal	31	62.00
Liver and bilary system	12	24.00
Respiratory system	4	8.00
Genito urinary system	3	6.00
Central nervous system	2	4.00

Fever with chills was the commonest presentation in 45 cases followed by fever without chills in 5 cases. Intermittent fever was seen in 44 patients.

Table 2: Showing types of fever complained by patients

Type of fever	With Chills & Rigors	Without chills & Rigors	Total	Percentage
Intermittent fever	40	4	44	88.00
Continuous fever	4	1	5	10.00
Remittent fever	1	-	1	2.00
Total	45	5	50	100.00

Table 3: Symptoms referable to different systems

Symptoms	No. of Cases	Percentage
Altered sensorium	2	4.00
Unconsciousness	1	2.00
Convulsions	1	2.00
Vomiting	24	48.00
Pain abdomen	17	34.00
Jaundice	12	24.00
Cough	4	8.00
Dysuria	3	6.00
Myalgia	20	40.00
Headache	32	64.00

Headache was observed in 32 patients, 24 patients had vomiting, 17 patients had pain abdomen followed by 12 patients with jaundice.

Table 4: Showing findings in general examination

Symptoms	No. of Cases	Percentage
Pallor	26	52.00
Icterus	17	34.00
Blood pressure 80-90 mm Hg systolic	3	6.00
> 90 mm Hg Systolic	47	94.00
> 90 mm Hg Systolic	47	94.00
Herpes labialis	2	4.00
Pedal edema	3	6.00
Clubbing	4	8.00

Table 5: Showing CSF analysis findings

Sugar (mg/dl)	No. of Cases	Percentage
< 40	--	--
41-70	--	--
> 71	2	100
Protein (mg/dl)		
15-40	--	--
41-80	1	50
Cell count (cells/ cumm)		
6-10	--	--
>10	2	100

Out of 2 patients, mild rise in CSF protein was found in 2 patients. Both the patients had CSF sugar level >71 mg/dL and mild to moderate pleocytosis between 20 to 60 cells/ cumm and in all patients CSF differential count is only lymphocytes.

4. Discussion

The study by Mehta SR[5] et al noted fever as the most common presenting symptom in 89.52% cases. Of them 25.2% had intermittent fever, 10.4% had continuous fever, 11.9% had remittent fever, 40.47% had other low grades of irregular fever.

In the study series by Gopinathan VP [6] et al, fever was present in 97.8% of cases and all had intermittent fever with chills and rigors. In the present study, fever is present in100% of the cases. Of them 88% had intermittent fever, 10% had continuous fever, 2% had remittent fever. 90% patients had fever with chills and rigors and 10% without chills and rigors. With above studies, fever is the most common presenting symptom in falciparum malaria. But the type of fever varied from each studies.

The study series by Mehta SR [7] *et al.* noted convulsions, altered sensorium and coma in 3.05% of patients. The study by Mehta SR [8] et al noted altered sensorium in 2.85% and unconsciousness in 0.95%.The study by Gopinathan VP [9] et al. noted altered sensorium in 8.8%. The study series by Bajiya HN [10] et al. of cerebral malaria noted unconsciousness in 100% of cases. In the present study, altered sensorium is seen in 4% .of patients.

Gopinathan VP [9] et al. noted vomiting in 42.2%, loose motions in 2.8%, Jaundice in 3.88% and pain abdomen in none of patients. Mehta SR [7] *et al.* noted vomiting in 8.47%, loose motions in 5.64%, jaundice in 2.58% and pain abdomen in 3.29%. Bajiya HN [10] et al noted vomiting in 64.8%, loose motions in 29.8% and jaundice in 30.81%.

In the present study, vomiting is seen in 48% of cases, pain abdomen in 34%, jaundice in 24% of cases and loose motions in none of the patients. Cough was a symptom in 4.47% of patients in the study by Mehta SR [7] et al. and 8.69% in the study by Uppal SS[11] et al. In the present study, cough is seen in 8% of cases and no patient had breathlessness. It was noted in 26.6% of the patients in the study by Gopinathan VP[9] et al. In the present study, it is noted in 6% of cases. It is noted in 86.48% of cases in the study by Bajiya HN [10] et al. In the present study it is noted in 64% of cases.

5. Conclusion

- Even though the incidence of malaria is decreasing, Falciparum Malaria infection is the commonest etiology of complicated malaria
- Intermittent fever with shaking chills was the presenting feature in majority of patients

6. References

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