



“CLINICAL MANIFESTATIONS, COMPLICATION & OUTCOME OF P. FALCIPARUM MALARIA”

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ABSTRACT 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. Though total cases caused by P. falciparum reduced in last few years, still it contributes greater component in indoor of any health facility especially tertiary health care center. Present study carried out to observe progress of diseased in terms of clinical manifestation, complication and outcome of P.falciparum malaria in 50 indoor patients admitted at PDU Medical College, Rajkot, Gujarat. All P. falciparum cases aged 12 years and more admitted in hospital enrolled in study provided they fulfil inclusion criteria. 20-30 years was most vulnerable group followed by 12-20yrs. Males were more affected while proportion of cases in Urban and Rural area was almost equal. **AIMS AND OBJECTIVES:** 1. To study the incidence, various clinical presentation, course, progress and recovery of plasmodium falciparum malaria. 2. To study response to various treatment guidelines plasmodium falciparum malaria.

KEYWORDS : Malaria, P. Falciparum, Clinical Manifestation

INTRODUCTION:

In our country widely accepted slogan is "ANY FEVER MAY BE MALARIA UNLESS PROVED OTHERWISE".

Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. It is preventable and curable. In 2019, there were an estimated 229 million cases of malaria worldwide. The estimated number of malaria deaths stood at 409 000 in 2019. Children aged under 5 years are the most vulnerable group affected by malaria; in 2019, they accounted for 67% (274 000) of all malaria deaths worldwide [1]. India has the highest burden of disease amongst the South-East Asian (SEAR) countries. 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. [2]. It is a parasitic infectious disease transmitted by female Anopheles mosquitoes. More than one billion people are at risk of malaria [3].

It is the P. Falciparum malaria which provides great challenge in treatment, because it's likely to have dreadful complications, as well as it's resistance to chloroquine and other anti-malarial drugs. It is the P. Falciparum malaria, accounting for nearly all malaria mortality, kills an estimated 1-2 million persons yearly though almost half fall has been noted in total p. falciparum cases (0.09 million) in 2020 as compared to 2019 [4].

P. Falciparum malaria can progress rapidly if major organ system dysfunction and complications such as acute renal failure, Hepatitis, Cerebral Malaria, Blood loss Anaemia, Thrombocytopenia with bleeding tendencies and Acute Respiratory Distress Syndrome develops, in such case risk of death is 30% even with proper therapy [5].

Prior studies from the central part of India have revealed that Anopheles culicifacies and Anopheles fluviatilis are the main vector species India [6,7,8,9,10,11,12,13,14].

In 2016, India's National Vector Borne Disease Control Programme (NVBDCP) launched a national frame-work to eliminate malaria by 2030 [15].

MATERIALS & METHODOLOGY

Sample Size: 50 cases (Based on number of cases of p. falciparum during previous year (2018-19) i.e 48 cases)

Selection of patients: Random selection of 50 confirmed cases of p. falciparum admitted during sept. 2019 to August 2020 in Medicine deptt. At PDU Medical College, Rajkot, Gujarat

Collection of data: All patients ruled out for other diseases for inclusion in study. Those who fitted in inclusion criteria enrolled in study. Details of all patients collected in pre-tested proforma. i.e socio-demographic profile, past history, personal history, family history. Details Lab investigation had been carried out to rule out other existing of new severe debilitating disease having same course of clinical presentation, progress, complication and recovery etc.

Period of study: 1 year (Sept. 2019 to Aug 2020)

INCLUSION CRITERIA:

1. Age > 12 Yrs.
2. Presence of P. Falciparum on peripheral smear examination.
3. Patients with presence of P. Falciparum in peripheral smear.

EXCLUSION CRITERIA:

1. All pediatric patients are excluded.
2. Patients not giving consent for study.
3. Peripheral smear showing mixed infection with P. Vivex and P. Falciparum
4. Patients suffering from other severe debilitating diseases

OBSERVATIONS:

Table 1: Socio-demographic variables of patients

	No. of cases N=(50)	Percentage
Age (In Years)		
12 – 20	10	20%
21 – 40	23	46%
41 – 50	08	16%
51 – 60	07	14%
> 60	02	04%
Gender		
Male	33	66%
Female	17	34%
Geographic distribution		
Urban	26	52%
Rural	24	48%

Table 1 shows that half of the affected patients with P. Falciparum malaria is aged between 21 – 40 years. As the age advances, incidence of P. Falciparum is less. Above 60 years, incidence of P. Falciparum malaria is less than younger age group. Males are more affected than females. 66% of patients are Males compared to 34% of patients are Females.

Ratio of Male to Female is 1.94:1 So, Males are more vulnerable to P. Falciparum Malaria as compared to Females. Ratio of urban to rural is 1.08 : 1, So, the incidence of P. Falciparum Malaria is slightly increase in Urban than in rural.

Fig 1: Clinical Presentaion of Malaria patients

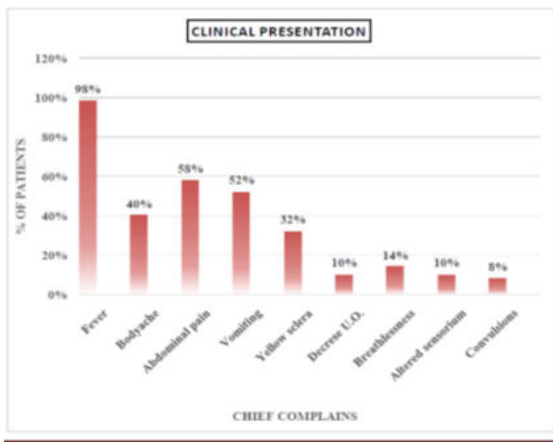


Fig 1 shows Fever is the most common presenting symptom. 98 cases (98% of patients) had fever at presentation. Gastro-Intestinal manifestations were also common. 26 cases (52% of patients) had vomiting. 29 cases (58% of patients) had abdominal pain. 16 cases (32% of patients) had Jaundice. All of the patients of *P. Falciparum* malaria are associated with some form of GI manifestation either abdominal pain or vomiting. 05 cases (10% of patients) had decreased Urine Output and 07 cases (14% of patients) had breathlessness, 05 cases (10% of patients) had altered sensorium and 04 cases (08% of patients) had convulsions.

Table 2: Complication associated with grade of parasitamia

Grades of Parasitemia	No of cases	Uncomplicated Cases	Complicated Cases	Chi-square	P value
Grade I	18	17 (94%)	01 (6%)	15.16	0.001
Grade II	16	13 (81%)	03 (19%)		
Grade III	07	02 (29%)	05 (71%)		
Grade IV	09	04 (44%)	05 (56%)		
TOTAL	50	36 (72%)	14 (28%)		

Out of total cases studied 14 (28%) were complicated. Grading of parasitemia was studied in relation to the complication developed. As shown in table no.2, Patient having gradeIII,IV parasitemia, risk of developing complication was more than 50%. So, it concludes that increase in grade of parasitemia depicts the increase in density of parasitemia and more likely to develop complications. The above findings are calculated by chi square test and statistically found significant with P value=0.001.

CONCLUSION:

- Maximum incidence of Plasmodium Falciparum Malaria is found in third decade (21–40 years) is about 46% of cases while Minimum incidence was found in 6th and 7th decade is about 4% of cases.
- Males are more vulnerable to Plasmodium Falciparum Malaria with Male: Female Ratio 1.94:1.
- The incidence of Plasmodium Falciparum Malaria in rural area is almost equal in urban area with Rural : Urban ratio 1 : 1.08.
- Fever, bodyache and vomiting is present in 98%, 80% and 78% of patients respectively at the time of presentation in present study.
- 36% of patients had Grade I Parasitemia and 18% of patients had grade IV parasitemia at the time of presentation. Correlation of incidence of development of complications with grade IV parasitemia is statistically significant.

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