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Original Article

Study of Clinical Profile in Malaria at CIMS, Bilaspur, Chhattisgarh, India.

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Abstract:
Objective: *Study report aimed at to study clinical features, complications, response to treatment of malaria cases admitted and outcome at tertiary care hospital at CIMS, Bilaspur ,Chhattisgarh, India.*
Material & Methods: *This is descriptive, retrospective study, conducted in confirmed cases of Malaria, either by peripheral smear or rapid diagnostic test of patients admitted in the Department of Medicine, CIMS, Bilaspur (CG), from December 2010 to February 2012. The patients were from Bilaspur and admitted from periphery for admissions.*
Results: *A total of 100 cases were included in the study. Mean age was 25.5 years. Amongst them, 62% were male and 38 % were female. The most common form of malaria was in the order of falaparum, vivax and then mixed variety. Max patients 42% presented between 3-7 days after onset of symptoms, most common symptoms were fever (85%) ,followed by vomiting (20%), cough (16%), unconsciousness (16%), seizure (16%), jaundice (13%), breathlessness (11%). No of cases of severe malaria was 38% 15% mortality was noted and 85% had good recovery.*
Conclusion: *The study shows major population were of falciparum malaria. Highest incidence of falciparum malaria is due to patient admitted in tertiary care hospital. Severe malaria is a poor prognostic factor. Combination therapy of artisunate in severe falciparum malaria is good option. Perspective study is needed for studying the changing trends of clinical features of malaria species.*
Keywords: *Malaria ,falciparum ,Vivax, Anemia*

I. Introduction

Malaria is major health problem in many parts of India. Several factors have been attributed to increased morbidity and mortality in malaria even with advances in development in anti malarial drugs in malaria; we are not able to completely control or eradicate malaria. This works of our puts in an effort to study symptoms, signs and clinical outcome of admitted patients of malaria.

II. Material and Methods

This is retrospective, observational study conducted on confirmed cases of malaria admitted in CIMS, Bilaspur. Cases satisfying WHO criteria of severe malaria included in the study population included 100 patients admitted in the hospital. The patient record was analyzed, name, age, sex, duration of symptoms, test done for confirmation, forms of malaria, treatment received from outside, presenting complaints, clinical signs, laboratory investigations, co morbid conditions , treatment given and outcome of the treatment was recorded. Patients population included from urban, rural, peripheral areas. Patient referred from outpatient department, private clinic, (open access). The study had approval of the college authority. Statistical analysis work done by SPSS (11.5 version).

III. Results

Out of 100 patients, male were 62% and female 38%. The patients belonging to urban area was 56% and 44% belongs to rural area. Duration from the onset of illness of symptoms attended to this hospital is illustrated in **Table1**. Maximum patients (42%) presented between 3-7 days, after the onset of symptoms. 62% had falciparum malaria and vivax was noted in 23%. Mixed infection (Fal + vivax) was recorded in 17%. 04% had (dengue plus vivax). **Table-2** depicted, the patient who received treatment from outside were 15% and 85% of patient presented without treatment. The history of traveling outside was recorded in 25 % of cases. The presenting complaint were tabulated in **figure-2**, fever (85%), cough (16%), jaundice (13%) Blackurine (03%) breathlessness (11%) unconsciousness (15%), seizure (15%). Spontaneous bleeding in 01% cases.

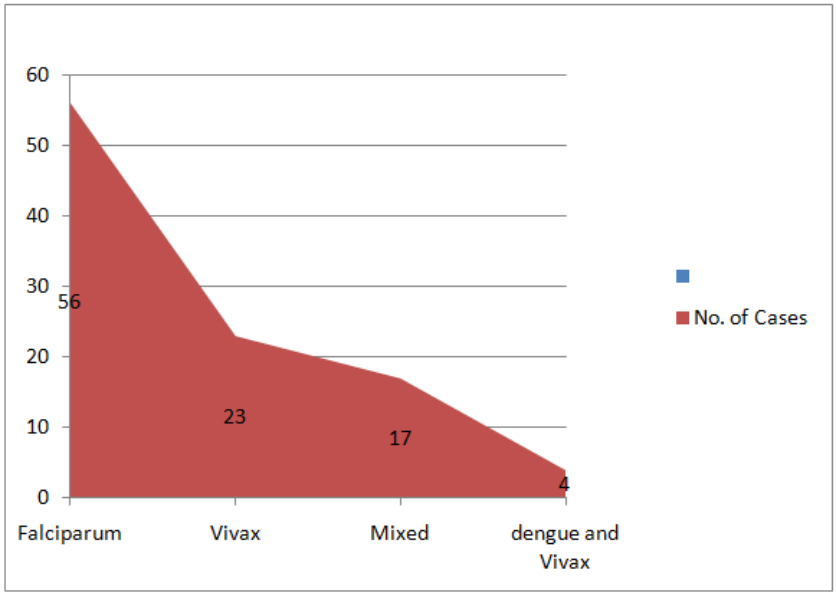

Fig-1 percentage of malarial species admitted in hospital

Table 1 Duration of Symptom

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<24 HRS	9	9.0	9.0	9.0
	24-48 HRS	11	11.0	11.0	20.0
	48-72 HRS	21	21.0	21.0	41.0
	3-7 DAYS	42	42.0	42.0	83.0
	>7 DAYS	17	17.0	17.0	100.0
	Total	100	100.0	100.0	

Signs recorded were pallor was 48%, Bradycardia 15%, increased in respiratory rate (>32/min) 08%, systolic B.P. < 100 mmHg in 12% of cases and shock (04%) icterus (13%) Hepatomegaly (17%) splenomegaly was seen in (35%). Crackle (15%), meningeal irritation in 05% cases and pailloedema was observed in 01% cases, other abnormal neurological finding in 15% of cases **figure 3**. Lecocytosis was seen in 35% of cases and count < 4000 was recorded in 20% of cases, platelets count of (< 20,000) in 04% of cases. The patient presented with severe malaria is illustrated in Table 3. 15% of cases had mortality, and 85% of cases had good recovery and were discharge without disabilities. Worsening of anemia was seen in 26% of cases, hepatic failure 04%, renal failure 05% and ARDS in 03% of cases. 06% had co morbid condition like diabetes mellitus, CVA, CLD. Patient received blood transfusion were 12% and 04% were put on ventilatory support.

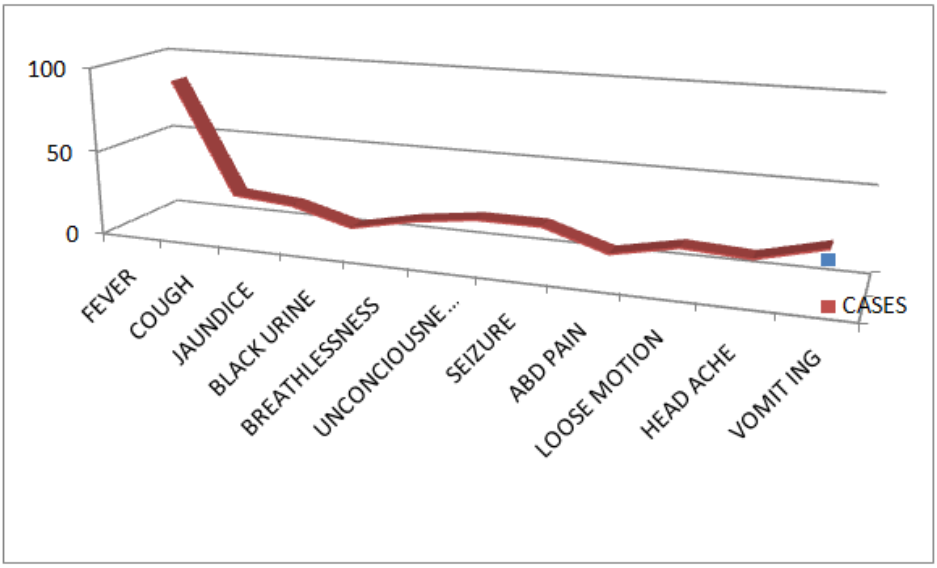

Fig 2 Clinical symptoms patients admitted in hospital

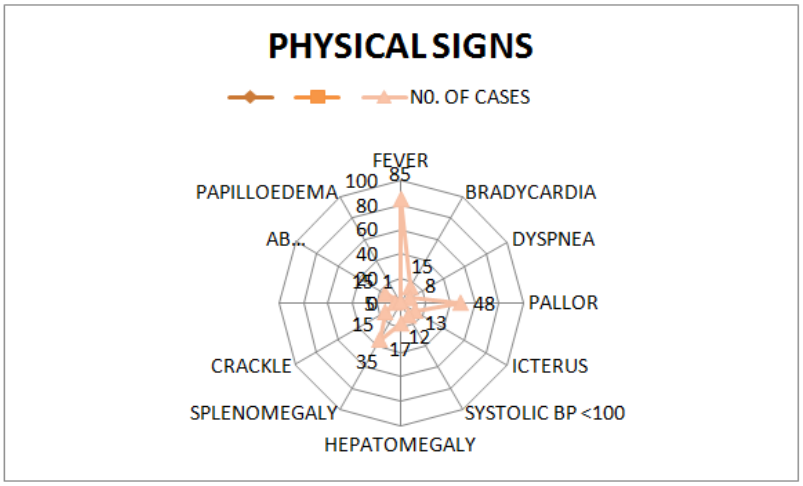

Fig 3 Physical signs

Table 3 - Severe Malaria Patients

CRITERIA	NO. OF CASES	SES%
IMPAIRED CONCIOUSNESS (INCLUDING CEREBRAL MALARIA)	16	
CLINICAL JAUNDICE PLUS EVIDENCE OF OTHER VITAL ORGAN DYSFUNCTION	13	
SEVERE ANEMIA <5gm/dl	6	
CIRCULATORY COLLAPSE	4	
ARDS	3	
SEVERE RENAL IMPAIRMENT	5	

IV. Discussion

A total of 100 patients were hospitalized out of which 62% male and 38% were female. Male to female ratio was 1.6: 1 .Our study shows male preponderance, this is consistent with similar study conducted by Wasniket al[1] and also finding concordance to study conducted by Rajesh Deshwal[2] with male preponderance of 79%, this finding is in consistent to study by Bhakshi al[3] where female outnumbered male . This could be because of geographical location and also possibility of incidence of malaria more in men than in women due to working pattern i.e. man exposed to mosquitoes bites out door.

We reported in our study, 56% were falciparum positive, 23% vivax and 17%, mixed infection (vivax+ falciparam) and 04% patient were found to have dengue antibodies positive with vivax. The present study, we noted percentage of falciparum 56%, is consistent to finding of Himanshue etal[4] and Bakshi etal Raja sthein etal[5], where as Reddy etal[6] , recorded high incidence of vivex 61.2%. From these observation we can conclude that species varies with geographical area and the higher incidence could be due the fact that our being tertiary care hospital.

The age pattern is similar to those studies conducted by Malhotra etal[7] Many of the patients were between age group of 21-40, our study follows the age pyramid , in our country where the base is formed by young people and apex the older population, who constituted the lesser percentage of the population. Our study constituted 03% of patients above 60 years of age, consistent to finding Malhotra etal.

Symptoms analysis of cases recorded 85% of cases of fever, as campared to finding to Mehta et al[8] which showed 100% of patients suffered from fever which is also concordance to finding in study of Hemanshu Shekhar etal. Anemia was present in 48% of cases in our study , out of which and severe anemia (Hb< 5gm) was recorded in 04% of cases. Our finding was not consistent with Malhotra etal, Hemanshu etal and with the study in Sharma etal[9],in which 75% of cases had pallor. The higher incidence in them could be explained that their study envolved only falaparum cases. Worsening of anemia was noted in 26% of cases. It is important factor of morbidity in falciparum Malaria.

Icterus was noted in 13% of patients which correlates to finding in Himanshu dash etal 16% and was in consistent to finding by Malhotra etal (25%) and Nand etal[10] and KMC hospital Attar[11]. Hyperbilirubenemia, results from intravascular hemolysis of parasitized element and of microangiopathic hemolysis due to DIC[12].

Present Study demonstrates atypical Symptoms such as vomiting (10%), abdominal pain (04%), loose motion (12%), cough (16%) of cases. The sequestration of erythrocytes containing highly active parasites in vascular bed of internal organ can explain all the pathological events in severe and complicated anemia[13].

Splenomegaly was seen in 35% of cases, rates were high in murty etal study (50%),[1] and also in Nand etel[14] (60%) and less percentage was seen Hemanshu shekhar Dash study 16%. Hepatomegaly was present

in17% of similar to study Hemanshu shekhar das etal (16%) as compared to higher incidences was recorded in Rom etal[14] (79%) and murty etal (91%) study. This could be due to their studies concerned on malarial hepatitis and jaundice. Less percentage was seen in Nandet al (13%) of cases.

Neurological manifestation was seen as meningeal irritation (05%), abnormal neurological signs (15%), unconsciousness (16%); papilloedema (01%),12%cases were observed of altered sensorium in hemanshu das etal study.In our study altered neurological signs were observed in severe malarias including cerebral malaria. Out of 100 patients (35%) presented with severe malaria. This type of severe malaria was noted in other studies[15,16,17,18]. In our study maximum member of patients received atrisunate. Severe malaria patients received artisunate along with clandimycin along with adjunctive treatment of antibiotic ventilatory support, blood transfusion 04%.15% patients had mortality. Neurological manifestation were meningeal irritation (05%) abnormal neurological signs (15%) unconsciousness (16%) papillocdema (01%) altered sensorium was observed in 12% of cases in Hemanshu dash etal study. In our study altered neurological signs were observed in severe malaria including cerebral malaria. Out of 100 patients (35%) with severe malaria (WHO criteria of severe malaria)This type of severe malaria was noted in other studies[19,20,]

In our study maximum number of patients received artisunate. Severe malaria patient received artisunete along with clindlimycin along with adjunctive treatment of antibiotic, ventilatory support, blood trausfusion 15% patients had mortality and 85% had good recovery and were discharged without disability. Combination therapy with artisunate and clindamycin had better response and it is safe also.

V. Conclusion

The malaria incidence in higher in male as compared to female Fever is the presenting complaints in almost all the cases. anemia is most common hematological abnormality. Early treatment (< 7days) after onset of symptoms was found to have good prognosis. The incidence of falciparum malaria was higher in our study due to our being tertiary care hospital. Splenomegaly is important sign but its absence, does not rule our malaria. Since this was a retrospective study with small sample size, we could not demonstrate any cyclical changing in clinical profile of severe malaria. There is a there is need for prospective study with bigger sample size find out any changing trend over years.

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