

# Study of clinico-haematological profile of malaria

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## Abstract

Background: Malaria is one of the important public health problems in India. The present study is aimed at to study clinical and hematological profile of patient with malarial infection. **Materials and Methods:** Cases will include showing signs of malaria and diagnosed case of malaria from medicine OPD as well as IPD patients in Krishna Institutes of Medical Sciences. **Results:** Fever is the most common clinical manifestation present in 100% cases followed by jaundice in 23.3%, vomiting in 18.3%, headache in 16.6%, pain abdomen in 8%, cough 6.6%, and seizure in 1.6%. **Conclusion:** Thrombocytopenia is a common complication seen in vivax as well as falciparum malaria. The clinicians should be aware of this change and give as much attention to both malaria so that they can identify the early signs of complications and severe disease. This will help in reducing the morbidity and mortality in malaria

**Key Words:**

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salivary glands of a female anopheles mosquito are inoculated during a blood meal into the human blood stream. The common clinical manifestation is fever with chills and rigors, headache, vomiting, jaundice and common sign being splenomegaly, pallor, and icterus.

## MATERIALS AND METHODS

**Source of Data:** A detailed history and physical examination details are collected from patient. Laboratory investigations are also obtained from the records.

**Method of Collection of Data:** Cases will include showing signs of malaria and diagnosed case of malaria from medicine OPD as well as IPD patients in Krishna Institutes of Medical Sciences. Total 60 patients are taken who are diagnosed as vivax and falciparum malaria. The patient record is analyzed, name, age, sex, duration of symptoms, test done for confirmation, forms of malaria, treatment received from outside, presenting complaints, clinical signs, laboratory investigations, comorbid conditions, and treatment given, and outcome of the treatment is recorded. Patients population included from urban, rural, and peripheral areas.

**Design of the Study:** This hospital based cross sectional study.

## INTRODUCTION

Malaria continues to be one of the important public health problems in India. Among SEA region, India shares two-third of the burden (66%) followed by Myanmar (18%) and India Indonesia (10%). The malaria situation remains a major problem in certain states and geographical pockets. The majority of malaria cases and deaths in India are being reported from Orissa, Rajasthan, Jharkhand, Chhattisgarh, Madhya Pradesh, and the Seven Northeastern states. Malaria is caused by protozoan parasite of genus plasmodium. Five species of the plasmodium such as Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale, Plasmodium Malariae, and Plasmodium knowlesi cause malaria in humans. Infection is initiated when sporozoites from the

**Inclusion Criteria:** All the cases are tested positive for malaria parasite and admitted in OPD as well as IPD patients in the age group of 18 years and above are included in this study.

**Exclusion Criteria:** Patients presenting with fever (malaria smear negative) but treated empirically for

malaria are excluded from the study, and patients presenting with clinical features mimicking malaria (malaria parasite test negative) as in leptospirosis, dengue fever and sepsis had been excluded from the study.

## RESULTS

The tabulated data is as follows:

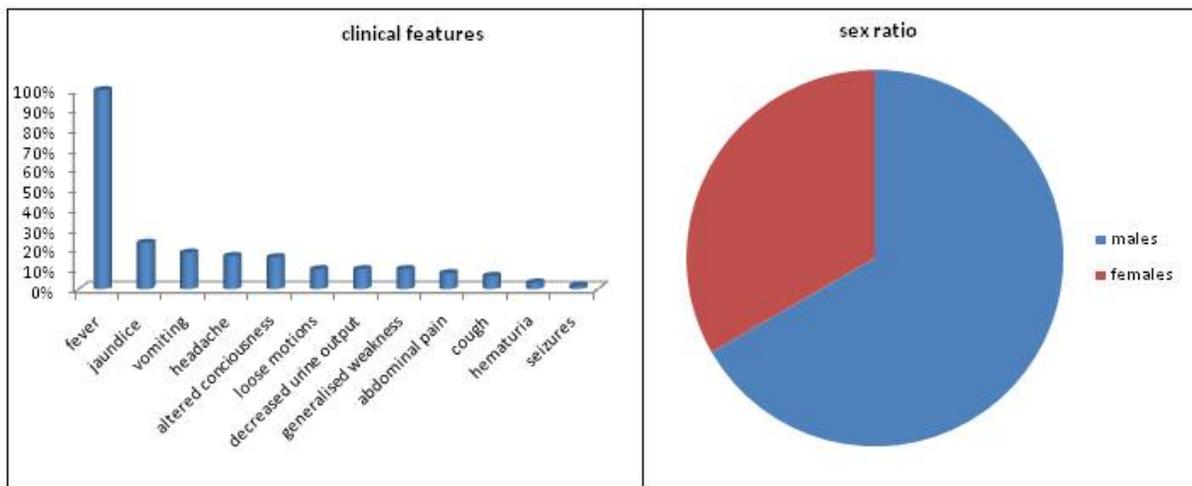


Figure 1

Figure 2

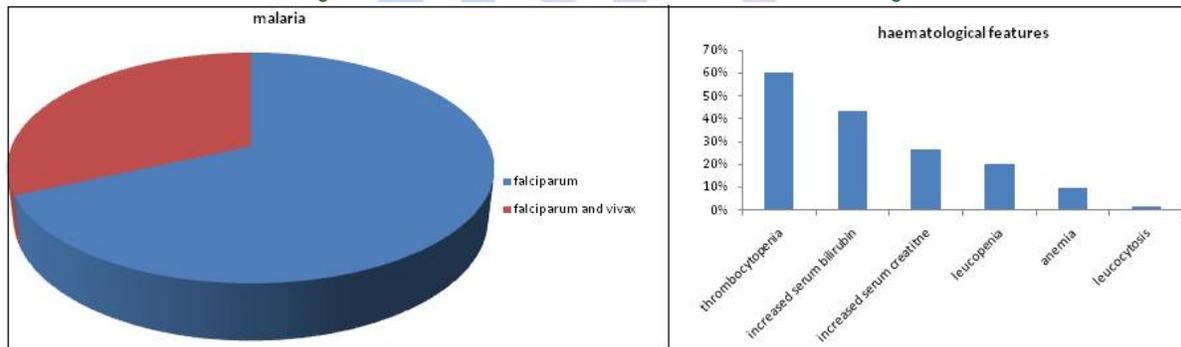


Figure 3

Figure 4

## DISCUSSION

A total of 60 subjects are hospitalized, out of which 40(66.6%) are males and 20 (33.4%) are females. Out of 60 subjects, 41(68.3%) are falciparum malaria while 19(31.7%) are mixed infection (both falciparum + vivax).all the patients are above the age of 18 years. All the cases are from Krishna Institute of medical sciences.

**Clinical features:** Symptoms, No.of cases (n=60), Fever 60(100%), Altered consciousness 10 (16.6%), Jaundice 14 (23.3%), Vomiting 11 (18.3%), Loose motion 6 (10%), Decreased urine output 6 (10%), Generalised weakness 6 (10%) Abdominal pain 5 (8%), Headache 10 (16.6%), Cough 4 (6.6%), Hematuria 2 (3.3%), Seizure 1(1.6%) Symptom analysis on admission showed that all the cases (100%) had fever with range of 1 to 20 days

with mean duration of 6.68±4.24 days. The fever is followed by impaired consciousness in 10 patients (16.6%) and also occurrence of jaundice which is 23.3%

**Haematological signs:** Anemia – 6 (10%), Leucocytosis 1(1.6%), Leucopenia 12 (20%), Thrombocytopenia 36(60%) Increased serum bilirubin>2 mg/dl 26(43.3%), Serum creatinine >1.6 mg/dl 16 (26.6%)

## CONCLUSION

In this study, all number of cases are above age group of 18 years with 67% males and 33% are females. All the 60 patients are having fever which is 100%, followed by jaundice which was present in 14 patients which is 23.3%. Then 11 patients are having symptoms of vomiting which is 18.3% in our study,10 patients are

having headache and altered consciousness which is 16.6%. 6 patients are having decreased urine output, generalised weakness, loose motions which is 10% in our study. 5 patients are having abdominal pain which is 8%, followed by 4 patients are having cough which is 6.6% 2 patients are having hematuria and one patient having seizure which is 3.3% and 1.6% respectively. Thrombocytopenia is a common complication seen in malaria and in our study 36 patients are having thrombocytopenia which is 60% Abnormal liver function test (increased serum bilirubin) is observed in 26 patients which is 43.3% , out of which liver enzyme (SGOT and SGPT) is raised in 13 patients. An abnormal kidney function test is observed in 16 patients which is 26.6% , which is followed by leucopenia which is present in 12 patients which is 20%. Anemia is found in 6 patients which is 10% ,these patients are having haemoglobin less than 5gm/dl Leucocytosis is found in one patient which is 1.6% 10 patients had impaired consciousness, out of which 3(5%) patients had unarousable coma (cerebral malaria) 10 patients had clinical jaundice plus evidence of other vital organ dysfunction There is no longer a distinguishing feature between vivax and falciparum. The clinicians should be aware of this change and give as much attention to vivax malaria so that they can identify the early signs of complications and severe disease. This will help in reducing the morbidity and mortality in malaria

## REFERENCES

1. Amar T, Krishna V, Manish J, Suchita A et al. Clinico-haematological Profile of Cerebral Malaria in a Rural Hospital Journal, Indian Academy of Clinical Medicine Vol. 7, No.4, Oct-Dec. 2006.
2. Peter JK. Malaria (Plasmodium). In: Nelson's Textbook of Pediatrics. 18 ed. Kliegman, Behrman, Jenson and Stanton. Elsevier Reed Elsevier India Pvt. Ltd., Saunders, 2007; p. 1477-78.
3. World Health Organisation, Development of South-Asia Surveillance Network for Malaria drug resistance. Report of an informal consecutive meeting, New Delhi, Jan 2002. WHO Project No. ICP CPC 400.
4. Epidemiological Report up to August 2008-09, Directorate of National Vector Borne Disease Control Programme. Ministry of Health and Family Welfare, Govt of India. Oct-2009.
5. K Park. Malaria (Epidemiology of communicable diseases). In: Park's Textbook of Preventive and Social Medicine, 18th edition K.ParkBhanot 2005; p. 202-03.
6. J.B. Pankoui M, I. Gouado, H. Fotso K et al. Clinical Presentation, Haematological Indices and Management of Children with Sever and Uncomplicated Malaria in Douala, Cameron. Pakistan Journal of Biological Sciences 11 (20): 2401-2406, 2008.
7. Ali Hasan Abro, Abdulla Mahmood Ustadi, Nadeem Javeed Younis. Malaria and Hematological changes. Pak J Med Sci. April-June 2008 (Part-I), Vol. 24(2): 287-91.
8. Haque U, Ahmed SM, Hossain S, Huda M et al. Malaria prevalence in endemic districts of Bangladesh PLoS ONE 4(8): e6737. Aug 25, 2009. doi 10.1371/journal.pone.0006737.
9. Radha T, Sailajananda P, Leena D. Clinical Manifestations and Predictors of Severe Malaria in Indian Children. American Academy of Pediatrics. Vol. 120, No. 3. Sept-2007, P. 454-460.

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