

# International Journal of Research in Health and Allied Sciences

Journal home page: [www.ijrhas.com](http://www.ijrhas.com)

Official Publication of “Society for Scientific Research and Studies” [Regd.]

ISSN 2455-7803

Index Copernicus value 2016 = 68.10

## Original Article

### A Study of Clinical Profile of *Plasmodium vivax* Malaria in Pregnant Women

Jyoti Rana

Lecturer, Department of Obstetrics and Gynaecology, Devdaha Medical College and Research Institute, Rupendehi, Bhutwal Nepal

#### ABSTRACT:

**Background:** Malaria in pregnancy imposes additional burden not only on mother but also affects foetal outcome adversely. The present study was conducted to assess the cases of malaria in pregnancy. **Materials & Methods:** The present study was conducted in the department of Gynaecology & Obstetrics on 62 pregnant women diagnosed with malaria. In all patients, clinical examination and laboratory examination was performed. In all patients, clinical features and complications were recorded. **Results:** Common symptoms were fever (54), nausea/ vomiting (49), headache (35), weakness (22), convulsions (1), bleeding, (1) and abdominal pain (2). The difference was significant ( $P < 0.05$ ). Common complications were anemia (42), thrombocytopenia (51), hypoglycemia (7), cerebral malaria (5), hepatopathy (2), malarial ARDS (3) and pancytopenia (1). The difference was significant ( $P < 0.05$ ). 48 showed term delivery and 14 had pre- term delivery. The difference was significant ( $P < 0.05$ ). **Conclusion:** Malarial infection in pregnancy is carrying high mortality and can lead to complications such as thrombocytopenia, malarial ARDS, tachycardia etc. Common symptoms are nausea/ vomiting, headache, weakness, convulsions and bleeding.

**Key words:** Bleeding, Hypoglycemia, Malarial.

Received: 14 January 2018

Revised: 25 February 2018

Accepted: 27 February 2018

**Corresponding Author:** Dr. Jyoti Rana, Lecturer, Department of Obstetrics and Gynaecology, Devdaha Medical College and Research Institute, Rupendehi, Bhutwal Nepal

**This article may be cited as:** Rana J. A Study of Clinical Profile of *Plasmodium vivax* Malaria in Pregnant Women. Int J Res Health Allied Sci 2018; 4(2):5-7.

#### INTRODUCTION

Malaria in pregnancy imposes additional burden not only on mother but also affects foetal outcome adversely. Complicated cases can lead to maternal mortality (more than in non-gravid women), and also can cause abortions, premature delivery or even IUD. It is challenging to treat complicated malaria especially in pregnancy and deal with renal failure, ARDS, hypoglycaemia, rapidly developing anaemia and cerebral oedema even in tertiary hospital so as to improve maternal and foetal outcome.<sup>1</sup>

Malaria imposes great socio-economic burden on humanity, and with six other diseases (diarrhea, HIV/AIDS, tuberculosis, measles, hepatitis B and pneumonia) accounts for 85% of global infectious diseases burden. Out of two most common malaria (*P. Vivax* and *P. falciparum*), *P. vivax* malaria and its clinical effects during pregnancy is least studied. In our institute, we have studied various clinical manifestations and complications of *P. vivax*

malarial fever during pregnancy. Pregnant woman when suffer from *P. vivax* malarial fever having more risk of hypoglycemia, anemia and thrombocytopenia.<sup>2</sup>

Malaria affects humans and other animals caused by parasitic protozoans belonging to the *Plasmodium* type. Malaria causes symptoms that typically include fever, tiredness, vomiting, and headaches. In severe cases it can cause yellow skin, seizures, coma, or death. Symptoms usually begin ten to fifteen days after being bitten. If not properly treated, people may have recurrences of the disease months later. In those who have recently survived an infection, re-infection usually causes milder symptoms. This partial resistance disappears over months to years if the person has no continuing exposure to malaria.<sup>3</sup> The present study was conducted to assess the cases of malaria in pregnancy.

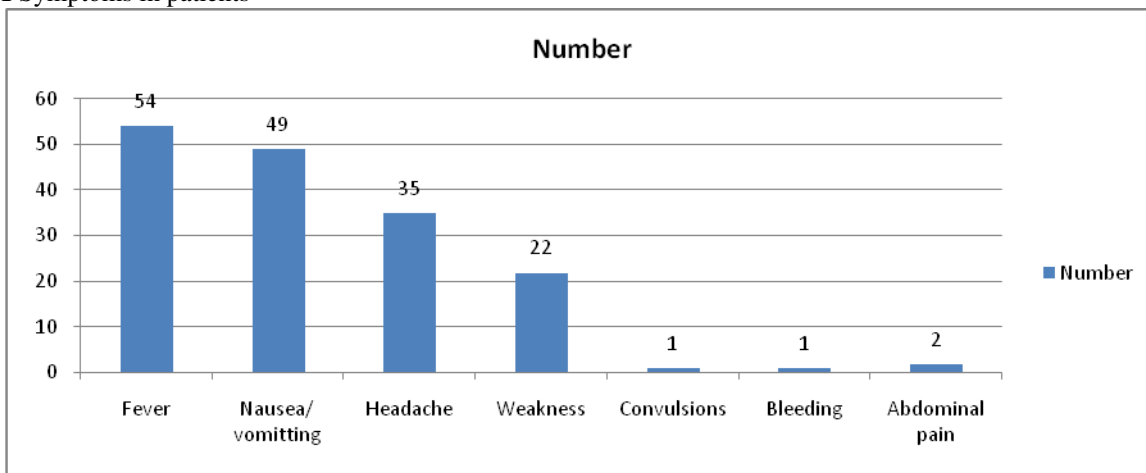
**MATERIALS & METHODS**

The present study was conducted in the department of Gynaecology & Obstetrics. It comprised of 62 pregnant women diagnosed with malaria. All were informed regarding the study and written consent was obtained. Inclusion criteria used was Age > 18 years pregnant woman, smear positive P. vivax/mixed type malaria. Exclusion

criteria used was negative smear for P.vivax malaria. In all patients, clinical examination and laboratory examination was performed. In all patients, clinical features and complications were recorded. Results thus obtained were subjected to statistical analysis using chi-square test. P value less than 0.05 was considered significant.

**RESULTS**

**Graph I** Symptoms in patients



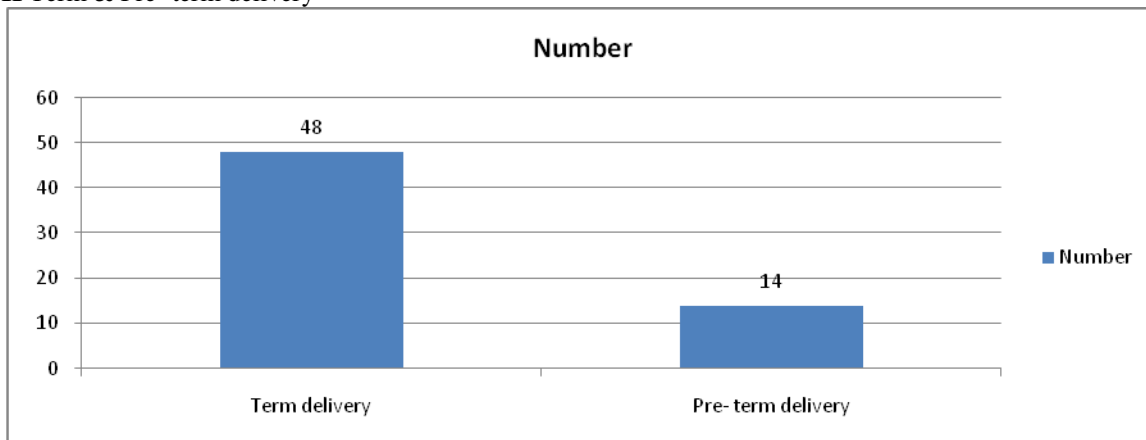
Graph I shows that common symptoms were fever (54), nausea/ vomiting (49), headache (35), weakness (22), convulsions (1), bleeding (1) and abdominal pain (2). The difference was significant (P < 0.05).

**Table I** Complications in patients

Complications	Number	Percentage
Anemia	42	67.8%
Thrombocytopenia	51	82.2%
Hypoglycemia	7	11.2%
Cerebral malaria	5	8%
Hepatopathy	2	3%
Malarial ARDS	3	4%
Pancytopenia	1	1%

Table I shows that common complications were anemia (42), thrombocytopenia (51), hypoglycemia (7), cerebral malaria (5), hepatopathy (2), malarial ARDS (3) and pancytopenia (1). The difference was significant (P < 0.05).

**Graph II** Term & Pre- term delivery



Graph II shows that 48 showed term delivery and 14 had pre-term delivery. The difference was significant ( $P < 0.05$ ).

## DISCUSSION

The risk of disease can be reduced by preventing mosquito bites through the use of mosquito nets and insect repellents, or with mosquito control measures such as spraying insecticides and draining standing water. Several medications are available to prevent malaria in travellers to areas where the disease is common. Occasional doses of the combination medication sulfadoxine/pyrimethamine are recommended in infants and after the first trimester of pregnancy in areas with high rates of malaria.<sup>4</sup> Despite a need, no effective vaccine exists, although efforts to develop one are ongoing. The recommended treatment for malaria is a combination of antimalarial medications that includes an artemisinin. The second medication may be either mefloquine, lumefantrine, or sulfadoxine/pyrimethamine. Quinine along with doxycycline may be used if an artemisinin is not available. It is recommended that in areas where the disease is common, malaria is confirmed if possible before treatment is started due to concerns of increasing drug resistance. Resistance among the parasites has developed to several antimalarial medications; for example, chloroquine-resistant *P. falciparum* has spread to most malarial areas, and resistance to artemisinin has become a problem in some parts of Southeast Asia.<sup>5</sup>

In present study, common symptoms were fever (54), nausea/ vomiting (49), headache (35), weakness (22), convulsions (1), bleeding (1) and abdominal pain (2). Cerebral malaria is defined as Failure to localize or respond to appropriately noxious stimuli; coma persisting for >30 min after generalized convulsion. Sometimes malaria also associated with convulsions which is defined as more than two generalized seizures in 24 h; signs of continued seizure activity sometimes subtle (e.g. tonic-clonic eye movements without limb or face movement). Common complications were anemia (42), thrombocytopenia (51), hypoglycemia (7), cerebral malaria (5), hepatopathy (2), malarial ARDS (3) and pancytopenia (1). This is similar to Nostan et al.<sup>6</sup> Hepatopathy is defined as smear positive malaria associated with raised s. bilirubin and SGPT. In our study only one patient is having malarial hepatopathy. Mild haemolytic jaundice is common in malaria.

A study by Hirani<sup>7</sup>, percentage of pre-term delivery (<37 weeks of gestation) was 10 %, rest were term pregnancy and 10% baby was having low birth weight (birth weight <2.5kg), total 90 % baby was having birth weight >2.5kg. Most common presenting symptom was fever with chills and rigors (100% patients) followed by nausea and vomiting (92%) and headache (66%). Most common sign at the time of presentation was pallor (80%) followed by tachycardia (40%) and hypotension (20%). Most common complication associated with malaria in pregnancy is thrombocytopenia (82%). Patients with malarial ARDS present with non-cardiogenic pulmonary edema. It occurs due to release of inflammatory cytokines and these cytokines act upon lung parenchyma to produce generalized parenchymal inflammation.<sup>8</sup>

## CONCLUSION

Malarial infection in pregnancy is carrying high mortality and can lead to complications such as thrombocytopenia, malarial ARDS, tachycardia etc. Common symptoms are nausea/ vomiting, headache, weakness, convulsions and bleeding.

## REFERENCES

1. Menon R. Pregnancy and malaria. *Medical Journal of Malaysia* 1972; 27: 115-9.
2. Nair LS, Nair AS. Effects of malaria infection on pregnancy. *Indian Journal of Malariology* 1993; 30: 207-14.
3. Nosten F, Ter Kuile F, Maelankirri L et al. Malaria during pregnancy in an area of unstable endemicity. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 1991; 85: 424-9.
4. Nosten F, McGready R, Simpson JA et al. Effects of *Plasmodium vivax* malaria in pregnancy. *Lancet* 1999; 354: 546-9.
5. Mishra SK, Satpathy SK, Mohanty S et al. *J Falciparum malaria and pregnancy*. *Obstet Gynae Ind* 1993; 43: 719.
6. Nostan, Mishra SK, Satpathy SK. Drug resistant *Plasmodium falciparum* in Mandla district, Madhya Pradesh. *Am J Trop Med Hyg* 1994; 57: 642.
7. Hirani. Re-emergence of malaria in India. *Indian Journal of Medical Research* 1996; 103: 26-45.
8. Singh N, Shukla MM, Shrivastava R, Sharma VP. Prevalence of malaria among pregnant and non-pregnant women of district Jabalpur, Madhya Pradesh. *Indian Journal of Malariology* 1995; 32: 6-13

**Source of support:** Nil

**Conflict of interest:** None declared

This work is licensed under CC BY: *Creative Commons Attribution 3.0 License*.