Perspective

iMedPub Journals
www.imedpub.com

Pediatric Infectious Diseases: Open Access

2021
Vol.6 No.8:0800

Malaria in Children

Yashika Jindal*

Department of Biotechnology, Meerut Institute of Engineering and Technology, Meerut, U.P, India

***Corresponding Author**: Yashika Jindal, Department of Biotechnology, Meerut Institute of Engineering and Technology, Meerut, U.P, India; E-mail: jindalyashika59@gmail.com

Received date: September 28, 2020; **Accepted date:** December 08, 2021**; Published date:** December 17, 2021

Citation: Yashika J (2021) Malaria in Children. Pediatric Infect Dis. Vol.6, No.8.

Editorial

Malaria is a long-standing human affliction. Malaria, while being nearly eradicated in developed countries, continues to take a tremendous toll on lives and health in a large part of the world. Almost half of the world's population lives in countries where malaria is endemic, while imported malaria affects almost every country. The most vulnerable are youngsters, particularly those aged 6 months to 5 years. Malaria can account for up to 10% of all deaths in children in areas where the disease is endemic.

The World Health Organization undertook an ambitious strategy to manage or eliminate malaria in the 1950s.

Malaria is again returning to areas where it was formerly controlled, as well as infiltrating new areas, after initial achievements. The threat of malaria has increased as a result of plasmodia and mosquito resistance to medications and insecticides, and the disease has now become a serious global issue. Plasmodium species, protozoal blood parasites, are the cause of malaria. Humans can be infected by the following four species:

- P vivax
- P falciparum
- P malariae
- P ovale

An infected mosquito bite transfers sporozoites, asexual forms of the parasite, into the bloodstream. Sporozoites enter hepatocytes and create schizonts, which are asexual forms as well. Preerythrocytic or hepatic schizogony is the maturation and proliferation process that schizonts go through. Some sporozoites in P vivax and P ovale infections develop to dormant forms termed hypnozoites, which can cause disease months or years later.

In Africa, Asia, Central America, Oceania, and South America, malaria is a major public health issue. Malaria affects around 40% of the world's population. Malaria affects 300-500 million people each year, with 1 million - 2 million deaths, the majority of whom are children. Malaria affects people of all races, with a few exceptions. P vivax malaria does not affect people of West African descent who do not have the Duffy blood group.

Malaria is equally dangerous to children of all ages who live in malaria-free environments. Malaria attacks children under the age of five years in endemic areas are common and often serious. Partially immune survivors develop. As a result, asymptomatic parasitemia is common in older children and adults (i.e., the presence of plasmodia in the bloodstream without the clinical manifestations of malaria). Malaria causes the majority of mortality among children under the age of five.

Between 2000 and 2015, the prevalence of Plasmodium falciparum infection in endemic Africa halved, and the incidence of clinical sickness reduced by 40%, according to a study. Since 2000, interventions have saved 663 million clinical cases, according to the study.

The most widely used intervention, insecticide-treated nets, was by far the most effective in reducing malaria-related mortality.

The prognosis for uncomplicated malaria caused by P vivax, P malariae, or P ovale is favourable. The majority of patients make a full recovery with no long-term consequences. Malaria caused by P falciparum is serious; if it is not treated promptly and fully, it can lead to complicated and severe malaria with a poor prognosis. Malaria has the poorest prognosis in children under the age of five in endemic locations. Malaria is equally harmful at all ages in a nonimmune population. Malaria can cause chronic anaemia, malnutrition, and stunted growth if it is contracted on a regular basis.

Children with severe malaria have poor outcomes due to acidosis, convulsions, altered consciousness, renal impairment, and pre-existing chronic conditions. Hyperparasitemia, respiratory distress, immaturity, severe anaemia, and hypoglycaemia are some indicators of poor prognosis.

Even with the finest therapy, cerebral malaria caused by P falciparum has a 25% fatality rate. This consequence, an acute sickness that usually affects children aged 6 months to 3 years, is responsible for the majority of malaria-related deaths. To save the child's life, early identification and treatment with a medicine that P falciparum is susceptible to is critical. Survivors may experience long-term consequences (e.g., hemiparesis, cerebellar ataxia, aphasia, spasticity).

P falciparum causes erythrocyte sequestration in the brain's microvasculature (and other organs). Seizures and coma are prevalent in children with malaria, and a protracted postictal state should raise suspicion. Even if a child does not have cerebral malaria, prolonged, frequent convulsions can result in prostration and death.

Generalized bleeding can occur in a nonimmune youngster with severe parasitemia. Disseminated intravascular coagulation is the most common cause of such bleeding, which can also be caused by a bacterial infection.

Malaria causes some haemolysis, but some children experience severe haemolysis, placing them at risk for renal failure. This haemolysis could be caused by a lack of Glucose-6-Phosphatase Dehydrogenase (G-6-PD) or by antibody-mediated erythrocyte destruction.

Malaria causes so much anaemia that it's practically considered an illness in itself. Some youngsters experience anaemia that is even worse than that caused by the malarial parasite destroying their erythrocytes. Malaria anaemia is a serious condition that can lead to death. The malarial parasites eat a lot of glucose. Hypoglycaemia can be caused by high parasitemia, which can be exacerbated by quinine and quinidine therapy. It can be difficult to tell the difference between hypoglycaemia and cerebral malaria.Haemolysis and abrupt renal failure are symptoms of black water fever. It is currently uncommon, but it was more prevalent when quinine was used as a prophylactic.

References

1. Ashley EA, Poespoprodjo JR (2020) Treatment and prevention of malaria in children. The Lancet Child & Adolescent Health 4:775-89.
2. Yang D, He Y, Wu B, Deng Y, Li M, Yang Q, Huang L, Cao Y, Liu Y(2020) Drinking water and sanitation conditions are associated with the risk of malaria among children under five years old in sub-Saharan Africa: a logistic regression model analysis of national survey data. Journal of advanced research 21:1-3.
3. Boyle MJ, Jagannathan P, Bowen K, McIntyre TI, Vance HM, Farrington LA, Schwartz A, Nankya F, Naluwu K, Wamala S, Sikyomu E (2017) The development of Plasmodium falciparum-specific IL10 CD4 T cells and protection from malaria in children in an area of high malaria transmission. Frontiers in immunology 8:1329.
4. Taylor TE, Molyneux ME (2017) Clinical features of malaria in children. InEssential malariology: 206-218. CRC Press.
5. Afoakwah C, Deng X, Onur I. (2018) Malaria infection among children under-five: the use of large-scale interventions in Ghana. BMC public health 18:1-3.