

Malaria: A Severe Risk for Pregnant Girls and Women

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Malaria is a parasitic disease which has been known for millennia. In fact, on some Egyptian papyri of around 1500 BC there are recognizable descriptions: Hippocrates, in about 400 BC, gave an accurate description of this disease. However, it was not until 1880, that the causative agents (*Plasmodium* species – Protozoa) were first seen and described by the French military doctor Alphonse Laveran who was working in Algeria. Laveran has suggested that mosquitoes might transmit the infection, however another seventeen years were to elapse before this was first demonstrated by Ronald Ross using malaria of birds. In 1898 the Italian group led by Battista Grassi transmitted human malaria to a volunteer, and then the life cycle in the vector insect and in human erythrocytes was elucidated. The “missing stage” between infective mosquito bite and appearance of parasites in blood cells, which was proposed by Grassi, was not discovered in human malaria until 1948, when it was described by Henry Short and Cyril Garnham from a liver biopsy removed from a volunteer. Actually, we know that there are four *Plasmodium* species that cause malaria in humans – *P. falciparum*, *P. vivax*, *P. ovale* and *P. malariae*, which differ in details of life cycle and in clinical effects. All are transmitted by bites of female *Anopheles* mosquitoes. The most important species is *P. falciparum*, which causes malignant tertian or sub-tertian malaria, characterized by cycles of fever occurring every 36-48 hours. According to the World Health Organization (WHO) [1]: (i) in 2017 there are an estimated 219 million cases of malaria in 90 countries; (ii) malaria deaths reached 435000 in 2017; (iii) the WHO African Region carries a disproportionately high share of the global malaria burden. In 2017, the region was home of 92% of malaria cases and 93% of malaria deaths; (iv) in 2017, nearly half of the world’s population was at risk of malaria. However, the WHO

regions of South-East Asia, Eastern Mediterranean, Western Pacific and the Americas are also at risk; (v) some population groups are at considerable high risk of contracting malaria and developing severe disease than others, These include infants, children under 5 years of age, pregnant girls and women, and patients with HIV/AIDS, as well as non-immune migrants, mobile population and travelers; (vi) control programs need to take special measures to protect the population groups from malaria infections taking in consideration the specific circumstances.

In this present short note our objective is to present malaria as a severe risk for girls and women during pregnancy. So, in [2] we have a good article concerning malaria in pregnancy which we recommend. In this article the author presents: (i) consequences of malaria in pregnancy; (ii) management of malaria in pregnancy; (iii) severe malaria in pregnancy; (iv) uncomplicated malaria in pregnancy. In a general context, the author: (i) cite that “pregnant women are especially susceptible to malaria infection. Without existing immunity, severe malaria can develop requiring emergency treatment and pregnancy loss is common, In semi-immune women, consequences of malaria for the mother include anaemia, while still birth, premature delivery and fetal growth restriction affect the developing fetus; (ii) indicate that “prompt management of maternal infection is key using parenteral artemisinins for severe malaria and artemisinin combination treatment (ACTs) in the second and third trimesters of pregnancy. ACTs may soon also be recommended as an alternative to quinine as a treatment in the first trimester of pregnancy. Monitoring the safety of anti-malarials and understanding their pharmacokinetics is particularly important in pregnancy with the altered maternal physiology and the risk to the developing foetus. As increasing numbers of countries embrace malaria elimination as a goal, the special need of the vulnerable

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group of pregnancy women and their infant should be not overlooked”.

As a final conclusion we are in agreement with this author because human health may be protected and pregnant and lactating girls and women may be given special attention.

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- [2] Rogerson SJ. Management of malaria in pregnancy. *Indian J Med Res.* 2017 Sep; 146 (3): 328–333. doi: 10.4103/ijmr.IJMR_1304_17

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