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A General View on Malaria and its Prevention

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DESCRIPTION

Malaria is an infectious disease spread by mosquitos that affects people and other animals. Malaria is characterized by symptoms such as fever, exhaustion, vomiting, and headaches. It can cause jaundice, seizures, coma, or death in severe situations. After being bitten by an infected mosquito, symptoms usually appear ten to fifteen days later. People may get recurrences of the condition months later if they are not appropriately managed. Reinfection usually causes lesser symptoms in persons who have recently survived an infection. If the person is not exposed to malaria for months or years, the partial resistance diminishes.

Malaria is caused by *Plasmodium* microorganisms, which are single-celled microorganisms. It is only carried by bites from infected Anopheles mosquitoes. The parasites from the mosquito's saliva enter a person's bloodstream through a mosquito bite. The parasites make their way to the liver to develop and multiply. Humans may infect and spread five species of *Plasmodium*. *P. falciparum* is the most common cause of death, but *P. vivax*, *P. ovale*, and *P. malariae* cause a milder form of malaria. Human illness is rarely caused by the *P. knowlesi* species. Malaria is usually detected through microscopic study of blood films or antigen-based fast diagnostic procedures. Although methods for detecting the parasite's DNA using the polymerase chain reaction have been developed, they are not generally employed in places where malaria is prevalent due to their high cost and complexity.

The risk of disease can be lowered by using mosquito nets and insect repellents to avoid mosquito bites, as well as mosquitocontrol techniques including spraying insecticides and emptying standing water. Malaria prevention drugs are available for travelers in locations where the disease is common. In locations with high malaria prevalence, occasional doses of the combination medicine sulfadoxine/pyrimethamine are suggested in babies and after the first trimester of pregnancy. A combination of antimalarial drugs, including artemisinin, is suggested for the treatment of malaria. Mefloquine, lumefantrine, or sulfadoxine/pyrimethamine may be used as the second medicine. If artemisinin is not available, quinine and doxycycline can be used instead. Due to concerns about rising drug resistance, it is recommended that malaria be verified if feasible before treatment begins in places where the disease is common. Several antimalarial drugs have developed resistance among parasites.

Prevention

Medications, mosquito elimination, and bite prevention are all used to prevent malaria. Malaria requires a combination of high human population density, high anopheles mosquito population density, and high rates of transmission from people to mosquitoes and mosquitoes to humans to exist in a given area. If any of these factors is reduced to a significant degree, the parasite will eventually vanish from that area, as it has in North America, Europe, and portions of the Middle East. If conditions revert to a combination that supports the parasite's reproduction, the parasite could re-establish unless it is eradicated from the entire world. Furthermore, when population density decreases, the expense of removing anopheles mosquitoes grows, making it economically untenable in some places.

Malaria prevention may be more cost-effective in the long run than treatment, but the initial expenditures are out of reach for many of the world's poorest people. Children under the age of five are frequently affected by anemia, which is occasionally caused by malaria in regions where it is prevalent. Antimalarial medicine given to children with anemia in these locations boosts red blood cell levels marginally but has little effect on the risk of death or the need for hospitalization.

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