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Mini Review

# Transgenic Fungi killing Combat Malaria: A Mini Review

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## INTRODUCTION

A Fungal Species *Metarhizium anisopliae* is a genetically engineered fungus who carries a human anti malaria antibody which is highly effective for killing malaria. This is natural malaria killer species. To make this species for effective for killing malaria researcher engineered a gene which derived from a spider. This trail is designed to reduce the population of malaria spreading mosquito.

Malaria occur mostly in poor tropical areas Africa is most affected area because of

- Efficient no of mosquitoes are responsible for transmission.
- Presence of predominate species *Plasmodium falciparum*, which is main cause of malaria and people death.
- Local weather which is suitable transmission of diseases.
- Lack of sources for malaria control activity and lack of fund for malaria cure.

Acrroding to Mamie T Coats the name malaria was already coined at earliest time but in this 21st Century rename and only the reason for morbidity and mortality. According to the statistics of WHO there were 214 million cases of malaria 438000 in 2015 [1,2].

Malaria is transmitted by Anopheles mosquito, its efficiency and population increase in a favourable climate like sub-Saharan Africa, this is the reason in which most of the people are suffer from malaria due the lack of adequate infrastructure to protect the disease and protect the mortality rate [3].

### Causes of Malaria

Malaria is a life threatening disease transmitted by Anopheles mosquito. It carry the plasmodium parasite, it enters to the blood stream while mosquito bites. It directly enters to the Liver to mature their cell and the mature cell enters to the blood stream and infected the Red blood Cells within 48 to72 hrs. The infected parasite multiply itself increases the no of cells and it burst and come out side. It infected the Red Blood Cells to cause malaria.

According World Health Organization (who) malaria most probably found in sub topical climate where the parasite can survive [4].

According to NHS malaria caused by plasmodium parasite. It spread through by the bite of mosquitoes. There are 5 types of parasite which causes malaria i.e. *Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale, Plasmodium malariae, Plasmodium knowlesi.*

The plasmodium parasite spread by female Anopheles mosquitoes which is also known as night biting they mostly bite Dusk and Down if the mosquito bite a person which is already infected with malaria it can also infected and spread the parasite by a person to another person.

Once mosquito bite a person it enters the parasite to the blood stream and travels to the liver. The infection develops in the liver and re-enter to the Red Blood Cells. And it occupies the Red Blood Cells. The parasite grows and multiply itself and the infected cell burst and release more parasites in to the blood, they used to burst each and Every 48 to 72 hrs. So each time the cells burst the patient causes chills and Sweating. Malaria also caused by the blood transfusion by sharing the needles but in very rare case [5-8].

**Symptoms- malaria:** Symptoms of Malaria developed with in after 7 days a person is bitten by an infected mosquito. The time between when the parasite stared infected to shows the symptoms cause incubation period it will take 7 -8 days depending on the parasite. Some time it will take to occur the symptoms.

Initial symptoms of Malaria:

- Body Temperature increases up to 38°C.
- Headache
- Vomiting
- Muscle Pain
- Diarrhoea
- Generally Feeling Unwell

The most serious type of malaria is caused by *plasmodium Plasmodium falciparum* parasite, without proper treatment it may causes so many complications.

Darla Burke et al the symptoms of malaria develop within 10 days to 4 week depend upon the infection. Some malaria parasite can enter the body and dormant for a long period of time.

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## Treatment of Malaria

According to Francesco C et al. malaria still claims as most threating and is the main cause for increases the mortality rate in rural area. In proper sequential use of drug immunotherapy in the past facilitated the spread of drug resistance *P. falciparum*, and to a lesser extend *P. vivax.*

The diagnosis and treatment of *Plasmodium vivax and P. falciparumi* is different from their fundamentally important ways.

According to Katharine A et al. *Plasmodium vivax and P. falciparumi* infection causes malaria, A rapid diagnostic tests need to distinguish which species is causing the symptoms' in patients. The technique $RTD_S$ incorporated to distinguish malaria is causing by *P. falciparumi* or other plasmodium species. These RDTS are distinguish as antibodies wise Type 2 RDTS use HRP-2 which is for *P. falciparumi* and aldolase for all species, Type 3RTDS use HRP-2for *P. falciparumi*, and pLDH for all the species . Type 4 use pLDH is for plasmodium species and pLDH for all the species [9-13].

The Treatment of malaria depends on many factors like severity, depends upon the species or malaria parasite which cause the infection and the locality and environmental condition in which the infection occur. And it also depends on the other factor like age, weight, and Pregnancy factor of that particular infected person.

**Prevention: "**Prevention is better than cure"

There is a risk if someone traveling on malaria affected is, and then we must be have take some **precautions to prevent the disease**

It can be prevented by ABCD approach

a. Awareness of risk: Need to check if you are at risk or malaria or not.

b. Bit Prevention: Avoid mosquito bite, Use spray, Cover Your arm and legs, use mosquito Coils and mosquito nets.

c. Check whether you need to take malaria prevention tablets: Make sure that you have the right antimalarial capsules and right dose and finish the dose with in its limited time.

d. Diagnosis: If you feel seek any time then immediate take a doctor advice

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