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Malaria: A Changing Scenario from the Past to the Future

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Research Article

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ABSTRACT

Malaria is a vector borne disease is the deadly most important life threatening diseases around the world, According WHO estimates that malaria kills about 660000 people per year. In the present commentary discussion about the focusing on malaria status from the past to the future and need of vaccination rather work on the anti malarial drugs which may results side effects.

INTRODUCTION

Malaria still is an endemic disease for many countries such as African countries, India and many south Asian countries. Malaria is the most serious and wide spread parasitic disease of humans. Around 40% of the world's population resides in malaria affected areas as it is a life threatening to the human beings. Malaria is caused by organism called Plasmodium sps which completes its life cycle in Mosquito (female Anopheles sps) which acts as a vector in spreading the diseases and asexual phase in the human being [1]. Malaria causing pathogen is protozoan species Plasmodium sps, According to the present study suggest there are about 200 species are present and out of which about four to six species causes the malaria to human beings [2].

Life cycle of the Plasmodium sps

Hematophagous Plasmodium sps causing malaria performs the dimorphic life cycle in two particular hosts, i.e. primary is human being performs asexual cycle and secondary host it performs the sexual phase of its life cycle. The Plasmodium parasites establish its continuity in the vector mosquito which can be compromised by many factors, including mosquito innate immune responses and factors derived from the blood of the human host [3,4]. A large of specific genes for every stages of the cycle leads to survival of the organism in the host. Manifestation of the malaria disease is due to the rupturing of the schizont cells that leads to destruction of erythrocytes and varies from the immune system of the host which indirectly depends with age [5].

Genome Structure in the Nutshell

According the Sanger institute 22,853764 bases present in the genome of 14 chromosomes and consist of the high number of A+T rich region considering about 80 % of the genome and G+C content region is about 13.2 %. Remaining consist of non coding region [6].

Past Scenario of Malaria Research

On before the identification of causing organism malaria used to consider as "Bad Air". Generally the term is originated and recognized in the Greece around 4th BC. Several researches have gone through many misconception between that have been spread through air or water borne disease till the

causative organism was identified by the group of researcher Grass GB, et al. [7]. After the discovery the causative organism they have been severe things need to be understand the pathophysiology of the malaria and the vectors till Laveran was the first person to find parasites in the blood of patients infected with malaria in 1880, latter on MacCullum was the first to observe the sexual stages of a malaria-like parasite and then followed the discovery of the sexual stage occur in the mosquito by Ronald Ross in 1897 leads to understand the reproduction and transfer the organism to mosquito to human being, the important discovery has been ignored and most of the researchers have been ignored that the mosquito will take the causative organism from the infected host to the unaffected host. In early 19th Century research stated that the number of causing malaria may be two or more in number [8-14].

Present Scenario of Malaria Research

After the identification of the causative organism and the events of cycle in occur in the human being and mosquitoes and the stages of malaria asexual phase and sexual phase in mosquito and human beings still in the search of the specific genes and protein that is responsible for the survival in the human being and mosquito. Some of the studies suggest that the main responsible for the survival of the organism is the membrane proteins and such research say that micro RNA reveals that is sole responsible for the survival of the causative organism in the host and mosquito, some of the case report reported that neonatal malaria and congenital malaria is considered a rare occurrence due to the protective effect of maternal immunity after birth [15,16]. Some research studies states that transfer of malarial organism one who stays at nearby Airports [17]. They have many anti malarial drugs have been come across nearly about 150 anti malarial drugs most of them form of plants extract; it may or may not have the side effects to the human beings [18]. Present control of malarial disease is that to control of vectors growth or housing the aerosol spray in the house hold and they have been misconception is that mosquito may be not be acts vector for the AIDS diseases.

Climate change and malaria

As Aristotle said that such as survival of the fittest, Anopheles mosquito good fits to the example generally breeding season is from June to August malaria infected people is very high number [19]. The researchers matched malaria outbreaks at various altitudes with temperature records to show how the disease rises and falls with warmer or cooler years. Does the global warming the mosquito habituated to the every season. It gives the researcher a big question is the modification in the mosquito or is there any polymorphism modification of the particular gene which leads the survival of the mosquito in every season. Recent studies from all over the world shows malaria causing organism is clinically less benign than has been commonly believed and has been challenged by numerous reports of symptoms and signs of severe disease [20].

CONCLUSION

Even after the identification of the life cycle of the malaria causing organism in the mosquito by Sir Ronald Ross still the mystery continued to understand the asexual life of the plasmodium sps in the human being. We have seen that malaria considered being second most deadly diseases after the viral diseases. Different investigations of the science of the malaria fever parasites utilizing these nonhuman primate models [21]. Expect to pick up a superior comprehension of the connections between malaria parasites, mosquito vectors, and vertebrate hosts, with a specific end goal to enhance or encourage the advancement of new techniques to battle jungle fever, for example, antibodies or new medications. Even though the more number antiviral drugs still we have not in position of eradicate the malaria, What could be the reason that an invertebrate more intelligent than the vertebrate organism still we are searching for the enzymes responsible for the survival of the vector or causative organism [22-24]. In coming days of future do we find the vaccination or still we have to use the conventional methods of eradication of malaria such control of vectors growth or use the aerosol spray in the house hold. Researcher has to concentrate on the specific genes that responsible for the survival of the vectors and causative organism along with the control of the vectors [26-30].

The last challenge is to guarantee the power and supportability of the considerable biomedical exploration endeavors that will be obliged to kill and eventually annihilate of malaria vectors. Such endeavors must enable and backing those agents and general wellbeing authorities working in ranges at

danger for malarial diseases ^[31]. Generous coordinated effort with researchers in creating nations will be expected to recognize and characterize (or rethink) key exploration zones as they develop or rise over the long run. Researchers working on malaria in endemic regions must appreciate the advantages of innovation exchange as well as of exploratory thoroughness, open deliberation, and a feeling of imparted reason to their partners the world over. Preparing projects and worldwide network to connect with and maintain the "best and brightest" in the worldwide academic group should in this way figure unmistakably in future challenges

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