INDO GLOBAL JOURNAL OF PHARMACEUTICAL SCIENCES
ISSN 2249- 1023

Gametocytogenesis: Sexual Commitment of *Plasmodium Falciparum*

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ABSTRACT: Malaria is a disease resulting from infection by the intracellular parasite Plasmodium. It remains one of the most important causes of morbidity and mortality in the tropical regions of the world. In 2012, WHO estimated that there were 207 million cases of malaria resulting in 627,000 deaths in world. The protozoan *Plasmodium falciparum* has a complex life cycle in which asexual multiplication in the vertebrate host alternates with an obligate sexual reproduction in the female anopheles mosquito. *P. falciparum* gametocytes, specifically mature stages, are the only stage in man transmissible to the mosquito vector responsible for malaria transmission. However, before it can succeed sexually in the mosquito host, *P. falciparum* undergoes a puberty-like process in the human blood; an asexual parasite goes through a series of changes, which will lead to the generation of a sexually competent parasite. This maturation has been termed Gametocytogenesis, whereby male and female gametocytes (i.e. pre-gametes) are produced to later fertilize in the invertebrate host. This review will focus on current knowledge of commitment to sexual development, biology of gametocyte and their development, sex ratio of gametocyte, gene expression and cellular metabolism during gametocytogenesis and will highlight factors that are associated with gametocyte production.

Conference Proceedings: International Conference on Life Sciences, Informatics, Food and Environment; August 29- 30, 2014

Indo Global Journal of Pharmaceutical Sciences(ISSN 2249 1023 ; CODEN- IGJPAI; NLM ID: 101610675) indexed and abstracted in EMBASE(Elsevier), SCIRUS(Elsevier),CABI, CAB Abstracts, Chemical Abstract Services(CAS), American Chemical Society(ACS), Index Copernicus, EBSCO, DOAJ, Google Scholar and many more. For further details, visit http://iglobaljournal.com