**Name: 王立敏**

**Student ID: 2017E8018661153**

**Introduction**

Malaria is one of the oldest and deadliest infectious diseases in human.(Depinay et al., 2004)，Since Laveran find the plasmodium, medicine research developed rapidly. However after using different medicines contain Chinese traditional medicine like Artemisinin and modern medicine like Quinine . Malaria remains uncontrolled and is increasing in many areas. Artemisinin used to consists effective drug for malaria, but Long-term use of the same kind of drugs contributes to the drug resistance. To solve the problem , scientists in the world keep finding the new drug.

Malaria is threating the world，Africa represents the worst areas for malaria, it has 364.98 millions patients which suffered P. falciparum, and Southeast Asia is the next, which has 118.94 patients. In China, Hainan, Yunnan are the main infected areas.(Gething et al., 2011)

In ancient China, the doctors mainly used  Yingzhaosu A, zincpolyanemine, and artemisinin to cure the malaria. Artemisinin used to be very efficient on malaria treatment. The World Health Organization (WHO) currently recommends artemisinin-based combination therapies (ACTs) for malaria control.(Bhattarai et al., 2007)

Recently，the drug resistance became a big problem. And more compound artemisinin based medicines were produced to cure the malaria.

Artemether is one of the medicine that China produced, According to (郭宗儒, 2016), its anti-malarial activities is about 2 times higher than artemisinin, but it needs a long course of treatment (5 days). There is another defect that it only lasts a short period in blood so that plasmodium is easy to survive and recrudesce. The compound artemisinin which combines long-acting and short-acting composition would increase effective time, but more medicine compositions are possible to cause more side effects .

To investigate the high-efficiency which has shorter treatment time , lower toxic and side effects., we developed a new medicine . It needs a 2 days’ treatment , and there are no side effects performed locally or generally in most of patients we observed. To evaluate the toxic and side effects, we record the blood and fever condition of the patients. In the first week, the patients lived in the hospital and then they go home, we recorded the condition before and after they take the medicine for the whole 3 weeks. That includes headache, deaf, fever and other side conditions. Within 3 weeks , we continue to track and record all the information such as protozoology examination , hematology and blood biochemical examination about the patients.

**Reference**

1. Bhattarai, A., Ali, A. S., Kachur, S. P., Mårtensson, A., Abbas, A. K., Khatib, R., … Björkman, A. (2007). Impact of Artemisinin-Based Combination Therapy and Insecticide-Treated Nets on Malaria Burden in Zanzibar. *PLoS Medicine*, *4*(11), e309. https://doi.org/10.1371/journal.pmed.0040309
2. Depinay, J.-M. O., Mbogo, C. M., Killeen, G., Knols, B., Beier, J., Carlson, J., … McKenzie, F. E. (2004). A simulation model of African Anopheles ecology and population dynamics for the analysis of malaria transmission. *Malaria Journal*, 21.
3. Gething, P. W., Patil, A. P., Smith, D. L., Guerra, C. A., Elyazar, I. R., Johnston, G. L., … Hay, S. I. (2011). A new world malaria map: Plasmodium falciparum endemicity in 2010. *Malaria Journal*, *10*(1), 378. https://doi.org/10.1186/1475-2875-10-378
4. 郭宗儒. (2016). 青蒿素类抗疟药的研制. 药学学报, *51*(1), 157–164.