P-14. A Multifaceted Analyses of the Effects of Medicinal Plant *Phyllanthus ninuri* on the Improvement of Severe Malaria

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Malaria is one of the most prevalent infectious diseases caused by *Plasmodium* parasites. *Plasmodium falciparum* is the major cause of this disease in Africa region, and it can lead to cerebral malaria (CM) which is one of the features of severe malaria. CM induces Interferon-gamma (IFN-γ)-dependent neurological damage by affecting several central nervous system (CNS). For a long ago, *Phyllanthus* species, medicinal plant, have got expansive uses in traditional methods for improvement of severe malaria in Africa region. However, little is known about the effect of this plant on CM. In this study, we analyzed the effect of *Phyllanthus ninuri* extracts (PNE) on IFN-γ expression, brain cell damage or parasitic growth. At first, we investigated the effect of the PNE on IFN-γ expression level in human T cell. As a result, IFN-γ expression level in the PNE treated cells inhibited compare to non-treated cells. This result suggests that, the PNE potentially inhibit the expression of inflammatory cytokine expression which coursed CM. Next, we investigated the effect of the PNE on apoptosis of human brain cells. As a result, activation of apoptotic caspase in the PNE treated cells was suppressed compared to non-treated cells. This result suggests that the PNE potentially prevents the apoptotic damage of CNS. Finally, the investigation of the effect of the PNE on parasite growth is ongoing. This presentation will discuss our current progress in the research about the multifaceted effects of PNE on the improvement of severe malaria.