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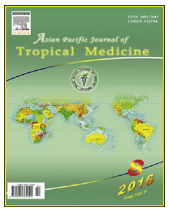

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Cerebral malaria: An interactive brain mapping study

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Dear Editor,

Malaria is still an important tropical mosquito borne disease. It can cause many serious complication including to cerebral malaria [1,2]. The cerebral malaria is a fatal complication of malaria that can be difficult to be managed [1,2]. The pathophysiology of cerebral malaria is an interesting research topic due to the lack of complete information. The recent report by Hu [3] using microarray analysis to study the gene expression is an interesting attempt. However, this report [3] does not give a structural and functional interrelationship. Here, the authors perform an interactive brain mapping study on cerebral malaria. The connectomics technique namely 'Gogli' (http://www.usegolgi.com/golgi.php) is used for structural study [4]. For the online brain mapping, the primary data on structural pathology is used as input information. Based on the referenced publication by Polder *et al.* [5], the main neuropathology can be seen at 'caudatus putamen' and 'the adjacent regions (radiatio corporis callosi, claustrum, hippocampus, and fimbria hippocampi)'. The online Golgi tool is used to assess these structures to find corresponding molecules and cells. Based on this study, the detected molecules are alpha 3 subunit nicotinic receptor, beta 2 subunit nicotinic receptor and sulfhydryl oxidase and detected cells are purkinje neuron, cerebellar granule cell and golgi neuron big. It can be seen that the identified molecules and cells should be the targets for further study on pathophysiology of cerebral malaria.

The results can help explain previous questionable observation on neuropathology at cerebellum in cerebral malaria [6,7]. In addition, the findings of new drugs for management of cerebral malaria can target on those identified molecules and cells. Of interest, the recent report by Stone *et al.* also supports the present study [8]. Stone *et al.* noted that 'the oxidative pathway for the metabolism of kynurenic acid which is an antagonist at glutamate and nicotinic receptors' is the main focus for further study on pathophysiology and rug development for cerebral malaria [8].

Conflict of interest statement

We declare that we have no conflict of interest.

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