

## Bioterrorism, Concern on Some Important Tropical Diseases

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### Abstract

Bioterrorism is an actual threat to the world population. There are many kinds of possible infectious diseases that can be used as tools for bioterrorism. Here, the author briefly discusses on some specific important tropical diseases which can be used by bioterrorists. This is another important new issue in tropical medicine.

**Keywords:** Bioterrorism; Tropical; Medicine; Infection

### Introduction

In tropical world, there are several tropical diseases. Those diseases are usually problematic and can affect the local public health system. However, due to globalization in the present day, the disease migration to the new setting is possible and it can be more problematic in the new non tropical setting where the local practitioners do not have experience on those tropical diseases. Focusing on the bioterrorism issue, the use of strange and little recognized germ for causing disaster is usually selected by the bioterrorist [1]. The use of some important tropical infectious diseases for causing the terrorism in the non-tropical setting can be expected and this is an issue for discussion [2]. In this editorial, the author briefly discusses on some important tropical diseases that plays important possible roles for bioterrorism.

### Melioidosis

Melioidosis is an important tropical infection that is caused by a bacterium namely *Burkholderia pseudomallei* [3]. It can result in fatal disease. Of interest, the spectrum of disease is very wide and this infection is known as the “best disguising disease” [4]. In tropical world, this disease killed thousands of people each year. This disease is highly prevalent in Southeast Asia; however, the disease is presently sporadically reported around the world. This infection is considered a focused in bioterrorism. There are several properties that increase the risk that the bioterrorist can use the causative agent for production of bioweapon. Those properties include a) stable, b) resistant to wide range of antibiotic, c) no present effective vaccine, d) hard to diagnose due to its wide clinical spectrum and e) highly contagious and simple transmission by inhalation [5]. Although there is no present report on using this disease as bioterrorism tool there are many concerns for the possibility. There are many attempts to correspond with the possible problem. The attempt to develop biodefense model has been continuously done [6,7]. Finding for new drug, antidote and vaccine is the present focus in biodefense research [8]. Recently, in an experimental study, it is reported that “Combining vaccination and postexposure CpG therapy provides optimal protection against lethal sepsis” [9]. The ongoing work to produce the effective melioidosis vaccine is the hope for correspond to this tropical infection that pose the feasibility for using as bioterrorism tool [10].

### Dengue

Dengue is an arbovirus infection transmitted by mosquito bite. This disease is highly endemic in Southeast Asia. The disease kills many thousands of local population annually. The concern on using hemorrhagic fever virus as tool for bioterrorism is raised [11]. Dengue virus is within a list to be monitored. Although there is no present report on using this disease as bioterrorism tool there are many concerns for

the possibility. Due to the fact that the virus can cause acute fever with hemorrhagic presentation, it is considerable effective in terrorism. The early diagnosis by the laboratory in non-endemic area is required [12]. Attempt to produce new diagnostic tool that can help early diagnosis of the virus is ongoing [13]. However, the developing of dengue vaccine is still not successful at present [14,15].

### Conclusion

There are many tropical diseases that can be used as bioterrorism tool. It is necessary to recognize for those diseases and the development of new drugs and vaccines as biodefense for those diseases is useful. It can be not only preparedness for bioterrorism but also a support to manage of diseases that are still the public health threat in local tropical endemic area.

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