

Bio War Fare

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Abstract

Biological weapons or bio weapons or biological threat agents are living organism that replicate or reproduce inside their host victims whom are very hard to treat and multiply very fast as compared to normal virus, fungi and bacteria. They have the capability to produce disability, death or damage, capable of being disseminated efficiently by existing techniques, equipment, or munitions. Certain bio-defence techniques have been deployed. Therefore, biological warfare is far too harmful to be effectively and humanly used in warfare and countries should be against production of biological war weapons.

Keywords: Bacteria, biological warfare, Biological weapon, Fungi,

Introduction

The bio warfare also called as germ warfare. The use of biological toxin like bacteria, virus, and fungi which aims to kill animals, humans or plants as an act of war is called as bio warfare. Biological weapons or bio weapons or biological threat agents are living organism that replicate or reproduce inside their host victims. These bio weapons are very hard to treat and multiply very fast as compared to normal virus, fungi and bacteria. Any type of organism like fungi, bacteria and virus which is harmful to humans is under biological warfare. Bacteria are easily adept by bio-warfare and humans find it a way to kill them by introducing antibiotics. These antibiotics not only killed the harmful bacteria but also killed the competing bacteria of the same habitat. Biological weapons are general nuclear weapon in which certain gases have been deployed such as chlorine gas, phosgene gas and mustard gas(Robert, 1993). The biological weapons like nuclear weapons are prohibited under customary of International Humanitarian Law and International Treatiesto be used (Doughlass and Livingston, 1987).

Agents of Biowarfare

- **Bacterial Agents:** Anthrax, Cholera, Monkey pox, Brucellosis, Small pox, Plague, Arbovirulencephilitidis
- **Biological toxin:** Mycotoxin, Enterotoxin B, Tularemia
- **Viruses:** Small pox, viral hemorrhagic fever

History of Biowarfare

During French- Indian war, Sir Jeffery commanded to use blankets used by small pox patients to cause disease to the rivals Ghengis Khan deadly cattle plague to invade Europe in 1200s. Scythian archers used poisoned arrows dipped in decayed bodies to kill and spread disease. German army developed anthrax wheat fungus for use as bio weapons (Christopher *et al.*, 1997). In 1650, Polish artillery general placed rabid dogs' saliva into hollow spheres for firing (Christopher *et al.*, 1997). In 1932-1945, more than 1,000 Chinese, Koreans, Mongolians, Soviet, American and British died in experiments by Japanese with agents causing anthrax, botulism, cholera, dysentery, gas gangrene and plague by Unit 731 (Christopher *et al.*, 1997).. According to the U.S. Army, a biological warfare agent should be:

1. It should have the capability to produce disability, death or damage.
2. It should be capable of being produced economically and in militarily adequate quantities from available materials.
3. It should be stable under storage and production, in transportation and in munitions.
4. It should be capable of being disseminated efficiently by existing techniques, equipment, or munitions.

Characteristics of Bio warfare

- Hard to control once released
- Low visibility
- Relatively easy delivery
- Difficult of protecting the workers
- Poor storage survival
- The concealment, transportation and dissemination easy

Delivery of Bio warfare

- Scud missiles can be used to deliver BWs having a range of 500 miles

- A motor vehicle as small as a car could cruise the streets of a city while emitting BWs through a fake tail pipe
- An individual carrying a large suitcase or backpack could disperse BWs material while walking

Characteristics of Bio war fare

- Extremely infectious and extremely effective
- Well dispersible
- Freely grown and manufactured in large quantities
- Stable while storage
- Resistant to environment condition
- Resistant to treatment

Bioterrorism

It is the transformation of biological or toxin based weapon against livestock or crops to threaten a nation's food supply and undermined the government agencies. Weaponizing a pathogen is far easier, cheaper, and effective than an improved nuclear device. It is a dream instrument for a desperate terrorist. Bioterrorism is an invisible asymmetric threat to the world and they are the Weapon of Mass Destruction.

Why Bioterrorism

- Our future enemies' strategies
- Our enemies' resources
- Our blind spot (Blindly trust)

How Do You Combat Bioterrorism?

- Biodefense- the procedures involved in taking defensive measures against attacks using biological agents.
- Vaccines to immunize the public against bioterror attacks.
- Diagnostic Tests for first responders and medical personnel to help identify exposure and provide treatment.
- Provision of therapy available to infected personnel to help recovery after infection

Bio Defence Techniques

- Field tests and Antibody based

- PCR and Comparison with DNA sequences
- Biosensors for monitoring air and water conditions

Advantages of Bio war fare

- Multiple Methods for delivery
- Versatile- can be in small or large quantities
- Easy to conceal
- Cause No damage to infrastructure
- Good logistics- cheap
- Defence maybe difficult
- Poor man's nuclear weapon
- Cause sickness easily, may disseminate widely
- Persistent

Disadvantages of Bio war fare

- Slow onset
- Indiscriminate
- Difficult to control
- Level of Technical sophistication moderate
- International Taboo
- Contagious
- Lack of preventive measures

Conclusion

We believe that biological warfare is far too harmful to be effectively and humanly used in warfare. Countries should be against production of biological war weapons, main defenders would not be soldiers, paramilitary but lab scientists, public health workers, health care providers and doctors. Microscopic and prophylactics not rifle and bullets would be the weapons of defense.

References

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