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The Threat of Bioterroism
The Emerging Prospect in Contemporary World

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Abstract:
The term Biological weapons or Bioterrorism we are all familiar with. Bioterrorism is the intentional usage of threatened agents; viruses, germs, toxins or any other agents to cause serious illness or death in people including pets and plants. Since priority bioterrorism agents which can be most are zoonotic in their origin, there's a very high chances and concern about the possibility of bioterrorism involving animals. Those who are concerned with the animals particularly the Veterinarians and livestock owners will be the first to witness the early cases of a bioterrorist attack, as livestock are sentinels of these exposures. A number of probably the most likely agents which can be biological be used within an work of bioterrorism had been prioritized and these agents are categorized right into three groups i.e., A, B and C groups. The Category A agents infection can be transmitted from animal to humans easily, one individual to another, having high mortality rates and prospect of a major health catatastrophe. Then comes Category B agents and condition are mildly very easy to disseminate and bring about moderate morbidity rates and mortality rate is quite low compare and contrast to category A. Category C agents and conditions include pathogens that could be engineered for mass infections. As we have very few chances to combat with this kind of threat and certainly has restricted ability to prevent bioterrorist attacks, there nevertheless is really a need to take actions being preventative reduce potential risks for such catastrophe. Increased scrutiny for continuous investigations is necessary to limit biological threat.

Key Words: *Terrorism, Threat, Weapons, Toxins, Agents, Biological*

OBJECTIVE

This paper will analyze the

1. The background of the use of the Biological weapons
2. The destruction caused by the biological weapons
3. How to combat to this new catastrophe

INTRODUCTION

Bioterrorism is the intentional usage of microorganisms or toxins by terrorist or extremists Groups which result in extreme condition and death both in human and animals. Any type of Terrorism is the Illegal utilization of physical violence or force against humans, animals or property to cause threat to the government or civilians to gain attention of the government in order to attain the desired objectives . The utilization of biological agents (Bio-weapons) to cause damage or death is not a new phenomenon, many countries have already been engaging in bioterrorism from many years. Bioterrorism came into existence and its frequent occurrence was particularly during the French and Indian wars, when the local inhabitants were intentionally given infected smallpox blankets. This action is thought to have started smallpox in the whole population which was exposed and ultimately resulted in 40% of deaths approximately. The impact of the agent depends on the potential of utilized, and what amount have been disseminated, and also the method of dispersion, the weather conditions has also big impact, the resistance of local population that is exposed and exactly how quickly the attack had been identified and how quickly mitigation of the attack has been started. There broad range of bioterrorism agents, including bacteria, viruses, and toxins Common characteristics of the group include: the capacity to be dispersed in aerosols of just one to 5 mm particles, which can enter the bronchioles that are distal the ability to deliver these aerosols with ease, the mode of spreading the agents, if delivered from sky through(airplane) in order, to infect the majority of the population and the ability to spread diseases, panic the most important thing which causes lot of damage at the outset , and fear . Bioterrorism has the every Possibility in producing high mortality and morbidity cases, because , agents mainly aerosolized which are biological infect or kill large population within a short span of time . Also non-aerosolized attacks, including the anthrax attack may result in huge morbidity and enormous mortality. These weapons are hard to detect at the outset because we can find certain attributes like it is without taste and don't have smell at all .

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HISTORY AND BACKGROUND

Biological warfare has actually been in use for very long time. In fact in 6th century BC, the Assyrians poisoned wells of their enemies with a fungus. The coming of germ theory in scene has contributed a lot and improvements in microbiological strategies brought new sophistication to the usage that is theoretical of in war. Biological warfare in the form of diseases like the anthrax and glanders were undertaken on behalf of the Germany during World War I. The use of biological weapons in war is not a Modern era phenomena, as history has acquainted us that in pre-Christian period, around 300 B.C., the Greeks were trying to contaminate water wells of enemies with many things which was biological in nature. This strategy was also used by the Romans and Persians during early times.

BIOCHEMICAL WAR AFTER 1945

Until WWII, the U.S. Stayed quite a bit behind other nations in terms of biochemical weapons (BW). The most important period that in both the development and assessment of Bio chemical weapons in the U.S. has actually started straight away after the WWII ended, when it witnessed the outcomes of the experiments done by the Japanese. The U.S. Worked with renowned professionals in this arena. During 1950, the U.S. navy carried out a large experiment on local population to assess the vulnerability of a huge united states town this in a coastal area with biological assault; in the San Francisco Bay. A low pathogenic bacterium primarily accountable for infections of epidermis and t respiratory tracts Was spread choosing a boat, initiating scatter and infection, as confirmed by subsequent inspections, which covered almost whole population around 1000000. Although the bacterium was practically harmless, a few individuals Developed diseases which was mainly respiratory some of them even Fainted and died . Another report disclosed that

During the full years between 1956 and 1958, in some parts of Georgia, mosquitoes, which accompanied yellow fever were circulated to confirm vulnerability of an attack. Although the investigation were kept under secrecy but sources reported that many people died from the insects bites and the yellow fever. A large-scale test which ended up being recorded in the United shows, involved the dissemination of Bacillus subtitles when you look at the New York subway in the summer of 1966. The research resulted in spreading of infections on a large scale although without much consequences, among more than one million men and women..

In 1970's The Union of Soviet Socialist Republics conducted an research on biological weapons but in contrast to the United states programme where we witness the secrecy was somehow compromised but in USSR it was kept hidden and nobody knows about the results of that research that was undertaken.. The main aim and the purpose of those tests were to increase and enhance the biological weapons power which should be more dangerous. The Iraq also started to work on the biological weapons after 1974. The programme of Iraq in biological weapons was more extensive and more enhanced it worked on fast spreading, UN identification and much lethal then the predecessors.

AGENTS USED IN BIOLOGICAL WARFARE

As we know biological warfare means an intentional use of the biological weapons in order to have maximum casualties by introducing the man made biological agents. These biological agents are categorized into three categories.

A: The Agents of A can be effortlessly transmitted from person to person. They result in high mortality rates and have the potential for large public health issues. Category Agents usually cause people to panic and social interruption, and need unique and specialized plan of action.

B; The Agents of B are those agents that are not so impactful like category A however they are moderately simple to disseminate. They can create moderate morbidities and fatality rate is quite low that is low and requires much enhanced Diagnoses and high surveillance.

C: The Agents of C are Emerging agents that could be engineered for mass dissemination. They are effortless to produce and disseminate. They were possibly linked to very high and mortality rates..

One of the worrisome thing about biological weapons are that are inexpensive and easy to produce but hard to contain. Once its spread it is very hard to stop and know the real potent force and agents used. However in order to contain the biological weapons onslaught we have to be very cautious and very informative, early detection and timely treatment can stop the wreath before it can go out of our hands.

SOME OF THE COMMON PATHOGENS ARE ANTHRAX. Q FEVER, TULAREMIA, PAGUE

1. ANTHRAX: The anthrax disease is a zoonotic disease particularly caused by the , non-motile , gram positive Bacillus anthracis Found in cattle's along with other herbivores for hundreds of years. It was first recognized during industrial revolution as an work-related pulmonary illness in employees in the wool factories in Europe. Anthrax is a perfect biological weapon. its very lethal ,The breathing type of disease is very deadly, simple in Dissemination and manufacturing. As it is easy to spread Anthrax spores may be easily dispersed over large population through bombs , missiles .The worst

part is that it is highly resistant to the sunlight, disinfectant and other remedial measures which makes it more lethal to combat..The r Anthrax attack in 2001 caused global concern. Initiated in September 2001, the USA experienced large bio attacks involving. The distribution of B anthracis through letters.

2. Q FEVER: Q fever is a zoonotic disease mainly caused by the rickettsia, It is mainly found in sheep, cattle, goats, The exponential growth of the organisms led to high concentrations in placental tissues. The Pets which are infected do not develop the disease, but they transmit It to other living organism in quick time and in large amount through milk, urine etc. Fever has the ability to spread very quickly and cover large area particularly in cold weather conditions.

3. TULAREMIA: Tularemia is also known as Rabbit fever, .Tularens is the agent that is causative of, is just a small, aerobic no motile, gram coccobacillus. Tularemia is an illness that people mainly acquire after skin or mucous membrane of tissues or human body fluids get infected .Tularemia was first recognized in Japan in 1800's as well as in Russia in 1926. Tularemia as being a tool that is biological is very difficult in culturing and growing these germs, but, it may be isolated from contaminated organisms. Tularemia can be effortlessly disseminated through aerosol release. And the worst part is that the tularemia can be confused with other biological weapons as it has almost similar repercussions like other biological weapons.

4. PLAGUE : The plague, that is mainly caused on by Yersinia pestis, a gram-negative rod-shaped, non-motile, non-sporulating bacterium has a great importance in the history. Plague is a zoonotic infection transmitted to humans by rodents like rats. It's highly lethal and contagiousness which makes it very dangerous. Antibiotic play a vital role in spreading the plague. Plague in earlier times was called Black Death.

PROTECTION AND PREVENTION FROM BILOGICAL WEAPONS

The people should be educated an should be aware of the risks and threats regarding biological weapons. This is the prerequisite to every nation who wants to be free from the catastrophe which they might face if not properly taken care of. Some of the general measures are the cooked food, boiled water proper chlorination and filtration insects and rodents control measures should be initiated instantly; early isolation of suspected exposed individual would be made at the earliest in order to contain the spread. Early accurate diagnosis is the key to handle casualties of biological warfare. Therefore, a proper network of specialized laboratories should be established for diagnosis. Mass immunization is the need of an hour. Specialists should be given special training, exact updating of information is the key in order to combat .Many Biological Weapon agents that are threat preventable or can be mitigated with proper information and precaution needed. If an attack is experienced or seems to be imminent,

or have been occurred, usage of chemoprophylaxis would be the best thing for all the inhabitants in that area. Immunizations should be administered in and adequate time to offer

CONCLUSION

Biological weapons are rarely used but considering the impact it will be foolish not to work on it in a proper manner. In the contemporary world there is every chance that we might witness the chemical and biological warfare at any given time but how to dealt with is the point of concern. In today's world where every country wants s to expand their territory and subjugate the weaker countries for their selfish interests it is evident that we might witness these kinds of attacks. The biological weapons have not been usually put into use throughout history, and their effectiveness to be used in war time is still mystery. The inclination of many countries to use biological weapons is worrisome and the worst part is that the enemy is invisible and identified by specialists only. It's for sure that we can witness these types of warfare in near future the most important thing to note down in order to combat this type of war is to make people aware. Make them aware right from its spreading to its fatalities. Every country should prepare its population about these types of wars.

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