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NATIONAL SECURITY AGENCY FORT GEORGE G. MEADE, MARYLAND 20755-6000

> FOIA Case: 103843A 2 January 2019

JOHN GREENEWALD 27305 W LIVE OAK ROAD SUITE #1203 CASTAIC CA 91384

Dear Mr. Greenewald:

This responds to your Freedom of Information Act (FOIA) request of 20 March 2018, for Intellipedia pages on "Anthrax." As stated in our initial response to you dated 11 April 2018, your request was assigned Case Number 103843. For purposes of this request and based on the information you provided in your letter, you are considered an "all other" requester. As such, you are allowed 2 hours of search and the duplication of 100 pages at no cost. There are no assessable fees for this request. Your request has been processed under the provisions of the FOIA.

For your information, NSA provides a service of common concern for the Intelligence Community (IC) by serving as the executive agent for Intelink. As such, NSA provides technical services that enable users to access and share information with peers and stakeholders across the IC and DoD. Intellipedia pages are living documents that may be originated by any user organization, and any user organization may contribute to or edit pages after their origination. Intellipedia pages should not be considered the final, coordinated position of the IC on any particular subject. The views and opinions of authors do not necessarily state or reflect those of the U.S. Government.

We conducted a search across all three levels of Intellipedia and located documents that are responsive to your request. One document is enclosed. Certain information, however, has been deleted from the document.

This Agency is authorized by statute to protect certain information concerning its activities (in this case, internal URLs). Such information is exempt from disclosure pursuant to the third exemption of the FOIA, which provides for the withholding of information specifically protected from disclosure by statute. The specific statute applicable in this case is Section 6, Public Law 86-36 (50 U.S. Code 3605). We have determined that such information exists in this record and we have excised it accordingly.

In addition, personal information regarding individuals has been deleted from the enclosure in accordance with 5 U.S.C. 552 (b)(6). This exemption protects from disclosure information that would constitute a clearly unwarranted invasion of personal privacy. In balancing the public interest for the information you requested against the privacy interests involved, we have determined that the privacy interests sufficiently satisfy the requirements for the application of the (b)(6) exemption.

Since these deletions may be construed as a partial denial of your request, you are hereby advised of this Agency's appeal procedures. If you decide to appeal, you should do so in the manner outlined below.

• The appeal must be in sent via U.S. postal mail, fax, or electronic delivery (e-mail) and addressed to:

NSA FOIA/PA Appeal Authority (P132) National Security Agency 9800 Savage Road STE 6932 Fort George G. Meade, MD 20755-6932

The facsimile number is (443)479-3612.

The appropriate email address to submit an appeal is FOIARSC@nsa.gov.

- It must be postmarked or delivered electronically no later than 90 calendar days from the date of this letter. Decisions appealed after 90 days will not be addressed.
- Please include the case number provided above.
- Please describe with sufficient detail why you believe the denial was unwarranted.
- NSA will endeavor to respond within 20 working days of receiving your appeal, absent any unusual circumstances.

For further assistance or to discuss any aspect of your request, you may contact our FOIA Public Liaison at <u>foialo@nsa.gov</u>. You may also contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. OGIS contact information is Office of Information Services, National Archives and Records Administration, 8601 Adelphi Road-OGIS, College Park, MD 20740-6001; e-mail: <u>ogis@nara.gov</u>; main: 202-741-5770; toll free: 1-877-684-6448; or fax: 202-741-5769.

Please be advised that records responsive to your request include material containing other government agencies' information. Because we are unable to make determinations as to the releasability of the other agencies' information, the subject material has been referred to the appropriate agencies for review and direct response to you.

Sincerely,

Paul N Aur

JOHN R. CHAPMAN Chief, FOIA/PA Office NSA Initial Denial Authority

Encl: a/s

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## Doc ID: 6647180 (U) Anthrax disease

#### UNCLASSIFIED

#### From Intellipedia

Anthrax is a serious illness caused by Bacillus anthracis, an encapsulated, spore-forming, large, gram-positive, aerobic (grows in the presence of air), nonmotile (unable to move independently), rod-shaped bacterium. It is primarily a disease of plant-eating animals (herbivores); cattle, sheep, goats, horses, and swine are the usual hosts. The bacteria grow within the host, and sporulation occurs when the bacteria are exposed to oxygen or adverse growing conditions. Virulent strains of B, anthracis produce a protective capsule, composed of poly-D glutamic acid, and two protein exotoxins (called the lethal and the edema toxins).

B. anthracis is found in soil (particularly dry soil) as a resistant spore that may persist for years under suitable environmental conditions. Spores vegetate in the soil when the pH and temperature conditions are favorable. The bacteria are found most commonly in areas with somewhat neutral soil (pH 6 to 8.5) and during periods of both drought and flooding. Flooding allows the bacteria to accumulate at the ground surface in low-lying areas. Subsequent drought affords conditions for exposure of the spores. The areas of the world where anthrax is endemic (prevalent) in animals are the Middle East. Africa, and many parts of the Americas, including sections of the United States. The spores are very resistant to heat, disinfectants, sunlight, and other environmental factors. When the spores are inhaled, they convert to the vegetative form, establish an infection, and, as they multiply in the host, produce highly lethal toxins. The usual course of the disease in large runinating herbivores (cattle, buffalo, sheep, goats), is sudden death, with severe bloating. In horses, the disease may present as sudden death or colic. In pigs and dogs, often the lymphoid tissues around the head swell, making it difficult for the pig to swallow, so they appear to be choking.

There are three primary classifications of human infection by B. anthracis: cutaneous, gastrointestinal, inhalational. The incubation period of anthrax is 1 to 7 days, with most cases occurring within 2 days of exposure. The infection usually lasts from 3 to 5 days. Each form of infection is unique with its own characteristic symptoms.

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#### History

Ouite possibly, anthrax is the most widely feared of any biological weapon. The endospore forming ability of this bacterium makes it extremely resistant to unfavorable environmental conditions, and the spores constitute the dominant infective form. The spores can survive in the soil for over fifty years and are not even killed in boiling water. Inhalation or ingestion of the spores produces fatalities close to one hundred percent of those infected, even with aggressive treatment. Due to its high lethality when inhaled, an aerosol of this particular agent has been the foremost focus of study by various military organizations. These bacteria have been responsible numerous times throughout history for various plagues and chiefly manifest themselves among infected individuals as the cutaneous disease. Robert Koch first isolated the bacterium responsible for anthrax in 1877, and Louis Pasteur used the anthrax disease to create the first live bacterial vaccine in 1881.2 The first documented case of infection by inhalation occurred in England in the latter half of the 19th century. Industrial processing of sheep wool at this time gave rise to airborne pathogens and carned it the name, woolsorter's disease.1 Since then, various nations have developed programs to take advantage of its lethality and resilience. The United States did extensive testing on its use as a biological weapon during the 1950's and 1960's. Most notably, an accident at a military research facility in Sverdlovsk, Russia, in 1979, resulted in the largest anthrax epidemic this century. Other countries have also pursued programs addressing the development of these bacteria as a weapon. Approximately 150,000 service members during the Persian Gulf War were immunized with the anthrax vaccine in anticipation of a possible biological attack by Saddam Hussein.3 Although there are no data indicating that anthrax was used during this conflict, accurate detection is difficult and the use of these agents remains doubtful.

#### **Signs and Symptoms**

Approved for Release by NSA on 01-02-2019, FOIA Case # 103843

The vast majority (95%) of anthrax cases are cutaneous, while cases involving inhalation and ingestion are far more rare. About 25% of untreated cutaneous cases are fatal, most of which result when the infection invades the bloodstream, known as septicemia.2

Following initial inoculation, the incubation period is around 1 to 5 days. The first vesicle appearing eventually ruptures to leave a Doc ID het of the schar is painless, but malaise, headache, and fever usually accompany the disease. After 2-3 weeks, the eschar separates and leaves a scar. I Inhalational anthrax, on the other hand, is far more deadly. It begins after an incubation period of about 1 to 6 days and is accompanied by the same nonspecific symptoms as cutaneous anthrax: malaise, fatigue, and fever. Additionally, there may be a non-productive cough and mild chest discomfort. These symptoms last about 2 or 3 days and then there may even be a brief period of improvement, after which the sudden onset of respiratory distress occurs along with dyspnea, stridor, cyanosis, increasing chest pain, and diaphoresis.3 Chest X-rays commonly reveal a characteristic widening of the mediastinum, and pneumonia and meningitis also frequently accompany the disease. Shock and death follow the onset of respiratory distress within 24 to 36 hours.1 Gastrointestinal anthrax has about the same time of incubation, and begins with nonspecific symptoms of nausea, vomiting, and fever, followed by severe abdominal pain. Persons infected usually die soon after, as with inhalational anthrax.

## Diagnosis

The development of cutaneous anthrax can be traced to or linked to the appearance of a painless pruritic papule, vesicle, or ulcer'often with surrounding edema, that develops into a black eschar. Inhalational anthrax remains very difficult to identify due to the nonspecific symptoms associated with the disease. Respiratory difficulty in association with radiographic evidence of a widened mediastinum, the presence of hemorrhagic pleural effusion, or hemorrhagic meningitis should suggest a diagnosis of anthrax.1 Again, like inhalational anthrax are diagnosed in accordance with a history of contaminated meat ingestion in a particular area.3 Retrospectively, serology usually reveals antibody development in response to the disease, and gram staining will usually detect the presence of the bacteria.1 These observations, unfortunately, cannot usually be made until very late in the development of the disease.

## Treatment

Almost all inhalational anthrax cases in which treatment was begun after patients were significantly symptomatic have been fatal, regardless of treatment. Penicillin has been regarded as the treatment of choice, with 2 million units given intravenously every 2 hours. Tetracyclines and crythromycin have been recommended in penicillin allergic patients. The vast majority of naturally-occurring anthrax strains are sensitive in vitro to penicillin. However, penicillin-resistant strains exist naturally, and one has been recovered from a fatal human case. Moreover, it might not be difficult for an adversary to induce resistance to penicillin, tetracyclines, crythromycin, and many other antibiotics through laboratory manipulation of organisms. All naturally occurring strains tested to date have been sensitive to crythromycin, chloramphenicol, gentamicin, and ciprofloxacin. In the absence of information concerning antibiotic sensitivity, treatment should be instituted at the earliest signs of discase with intravenous ciprofloxacin (400 mg q 8-12 hrs) or intravenous doxycycline (200 mg initially, followed by 100 mg q 12 hrs). Supportive therapy for shock, fluid volume deficit, and adequacy of airway may all be needed.37

# Prophylaxis

Treatment with antibiotics no later than one day following the initial inoculation can usually prevent death.1 Otherwise, the best protection possible from this disease is active immunization combined with antibiotics. The Michigan Department of Public Health currently makes the only licensed human vaccine against anthrax, which was approved by the FDA in 1972. Vaccine schedule is 0, 2, and 4 weeks, with a booster at 6, 12, and 18 months.3 Yearly boosters are given following this initial series. Up to 6% of the vaccine recipients will show mild discomfort at the location of the inoculation. Less than 1% will experience a more severe local reaction. Occasionally, ciprofloxacin is given for known or imminent exposure.1

## Decontamination

Instruments or materials used during procedures or autopsies involving infected individuals should be thoroughly disinfected with a sporicidal agent such as iodine or chlorine, as normal disinfectants will not destroy the spores.2 All other excrements or fluids should be handled with care and treated appropriately.



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