

# Aum Shinrikyo and Bioterrorism

By  
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# The First Attempt at Anthrax Bioterrorism

- 1993
- Kameido, Tokyo



# June 29, 1993

- Five residents in Kameido (eastern zone of Tokyo) report foul odor in neighborhood
- Public health investigators discover originating from 8-storey headquarters of the Aum Shinrikyo

# June 30, 1993

- 41 complaints about the foul odor causing
  - Loss of appetite
  - Nausea
  - Vomiting
- Investigators ask to check headquarters
- Admittance refused
- Air and ground samples collected
- Building's activity monitored
- Determined that odor posed no real threat to human health

# July 1, 1993

- Neighbors complain of loud noises and intermittent mist emanating from the headquarters' cooling tower.
- 118 complaints of foul odors
- Mist fluid described as "gelatin-like, oily, gray-to-black"
- Samples collected; no bacteriologic studies performed

# July 2, 1993

- After intermittent misting continues, persistent complaints by neighbors to authorities force Shoko Asahara, the Aum Shinrikyo founder, to cease activities on the rooftop and to vacate building.

# July 16, 1993

- Officials inspect vacated building.
- Nothing found except black stains on wall
- Incident forgotten until 1996.

# March, 1995

- Aum Shinrikyo launch sarin attack on Tokyo subway system
- The results
  - 12 dead
  - Approximately 1,000 hospitalized
  - 5,500 sought medical care
  - 10% of first responders injured

# May 23, 1996

- During arraignment of Asahara, cult members testify that the 1993 Kameido incident was their attempt to aerosolize *Bacillus anthracis* to create an inhalational anthrax epidemic
- The foul odor and the blackish mist was the result
- The purpose for an epidemic: Trigger a world war making way for Asahara to rule the world!

# November, 1999

- One 1993 fluid sample finally allowed to be tested for pathogens
- Test tube of 2.6 mL of gray-black fluid tested at Northern Arizona University, Flagstaff, AZ
- Found:  $4 \times 10^3$  colony-forming units of *B. anthracis*/mL
- *B. anthracis* is genotypically identical to a commercial strain used in Japan to vaccinate animals against anthrax

# 1999-2000

- Retrospective case-detection survey conducted to identify any 1993 anthrax victims
- Physicians at 39 health care facilities in the high-risk area surrounding the cult's headquarters were asked telephonically about any anthrax cases in 1993.
- No one reported any cases resembling inhalational anthrax whether respiratory or meningitis

# Why Unsuccessful?

- The anthrax strain used could not produce a protective capsule and is regarded as nonpathogenic for immunocompetent people
- The spore concentration at  $10^7$  /mL is much less than what is considered optimal for a liquid-based biologic weapon
- The liquid suspension too viscous
- Droplets too large ( $>5\mu\text{m}$  in diameter) to be inhaled into lungs
- Effectiveness of spray system questionable
- Solar radiation decreases survivability of spores

# Reference

- Takahashi H, Keim P, et al. Bacillus anthracis Incident, Kameido, Tokyo, 1993. [www.cdc.gov/ncidod/EID/vol10no1/03-0238.htm](http://www.cdc.gov/ncidod/EID/vol10no1/03-0238.htm). Accessed 1/11/04.