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Response to a Bioterrorism Attack with Bacillus anthracis (Anthrax) Spores

- Last month’s OEC Update provided a summary of CDC’s recommendations (shown again in the box below) for post-exposure prophylaxis (PEP) in exposed, asymptomatic persons following a bioterrorism attack with Bacillus anthracis (anthrax) spores. Also presented were excerpts from a recent article in the journal Health Security which discussed some of the important issues associated with the provision of PEP in this situation. Additional excerpts from the Health Security article are the following:

  - [Nationwide,] many health departments plan to use a combination of emergency dispensing strategies to provide the first 10-day course of antibiotics. These include public points of dispensing (PODs), first responder and prioritized population dispensing sites, select clinical provider venues (e.g., health centers, pharmacies, hospitals), and closed PODs at government agencies and businesses.

  - All of these rapid dispensing options can compromise patient safety by using an emergency screening process that may inadvertently miss some potentially injurious factors [e.g., underlying medical conditions, other medications the person is taking which may interact with doxycycline or ciprofloxacin, etc.].

  - An additional problem affecting patient safety is that paper-based records may be used during the urgent response, thus making patient tracking and individual follow-up burdensome and potentially even unmanageable in a large-scale response.

  - One final challenge is that public health agencies may expect that the healthcare community will assume responsibility for addressing complications and ensuring compliance for prolonged courses of antibiotics among large populations, though patient surge and demand for health resources following a bioterrorism event would likely overwhelm existing capacity.

  - While a great deal of planning has centered on providing the first 10-day course of post-exposure antibiotics, less consideration has been given to the complexities associated with the follow-up visits that will need to occur to provide additional antibiotics and [3 doses of] anthrax vaccine.

  - Assuming that the public health response begins by putting all [potentially-exposed] people on a 10-day regimen of antibiotics within the first 48 hours [the current goal] following the detection of an event, there will be a 5- to 7-day window to provide the additional 50-day supply before the initial 10-day regimen is depleted. Given this expanded timeframe, more thorough screening protocols to ensure patient safety and compliance can and should be instituted during the second visit.

  - [In addition, at this second visit where individuals are given the additional medication, they may also receive the first dose of anthrax vaccine. Because adverse reactions can occur in persons receiving anthrax vaccine,] screening for previous reactions to [the vaccine] and monitoring for vaccine-related adverse events are other considerations for inclusion as part of the screening process [at this and subsequent visits. Finally, when individuals present for the second visit, they may, if this has not already
been done, be entered into] an electronic patient record system . . . . . . for tracking and long-term follow-up.

- For a discussion of additional issues, see the full text of the Health Security article at: http://online.liebertpub.com/doi/pdfplus/10.1089/hs.2014.0078.

- Links to comprehensive information on anthrax and the response to an anthrax attack are found at: http://health.mo.gov/emergencies/ert/med anthrax.php.

Notes/References

1. PEP is the use of antibiotics and/or vaccines (in the case of anthrax, both) in an attempt to prevent the development of disease in a person who has recently been exposed to an infectious organism but who has not yet developed any signs/symptoms of illness. That is, prophylactic medications are given to persons believed to have been exposed to the organism who are currently asymptomatic. Note that if a person develops signs/symptoms of the disease, he or she would generally be treated with a different medication regimen than the one used for prophylaxis.
