Clinical Alert

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Acinetobacter Infections In Hospitals

Antibiotic-Resistant *Acinetobacter* Outbreaks In Health Care Facilities

In recent months, several acute general hospitals in Maryland have reported either outbreaks or cases due to *Acinetobacter* bacteria with high degrees of antibiotic resistance. The outbreaks have been serious, involving a total of several dozen inpatients. Although most of these inpatients suffered from serious, debilitating underlying illnesses, the added complication of a persistent respiratory infection with a multi-drug resistant organism may have been life threatening. The Office of Epidemiology and Disease Control Programs of the Community Health Administration and the Office of Health Care Quality bring you this clinical update.

Acinetobacter, a group of small Gram-negative non-fermentative coccobacilli, are included within the *Neisseriaceae* family of organisms. These bacteria can be found in soil and water in the outdoor environment, and are also found indoors, where they favor wet environments. However, they are relatively robust, and can survive for days to weeks even in dry conditions. Of many different types (species) of *Acinetobacter*, the most frequently reported is *Acinetobacter baumanii*.

Acinetobacter outbreaks in healthcare settings have proven difficult to stop, because

- *Acinetobacter* are robust survivors, especially in intensive care settings, and
- As *Acinetobacter* bacteria persist in a healthcare environment, they tend to acquire resistance to many (and occasionally to almost all) antibiotics.

Acinetobacter infections are of increasing concern to epidemiologists and infection control professionals. A recent search of the National Library of Medicine's PubMed database using the keywords "acinetobacter resistant" yielded references to more than one thousand articles in the medical literature.

During an outbreak, patients and health care workers can become colonized with *Acinetobacter*. The bacteria can remain on or in the body without causing illness. Skin colonization occurs even in healthy, normal people, at least transiently, with some studies showing *Acinetobacter* on the hands of health care workers for days at a time.

Acinetobacter bacteria can be spread from one person to another, by direct contact. The organism can also survive for a time on clothing or bedding, bed rails, ventilator surfaces, and other surfaces in the environment including sinks and doorknobs. Careful hand washing with soap and water is always to be encouraged, however, some studies suggest that alcohol-based hand sanitizers may be more effective in clearing *Acinetobacter* from the hands of health care personnel.

Acinetobacter can cause pneumonia, bacteremia, wound infection, or urinary tract infection. An *Acinetobacter* infection can cause mild to severe illness but can be fatal. Most infections occur in healthcare facilities, and particularly attack inpatients who are already critically ill. The severity of *Acinetobacter* infection depends upon the site of infection and the patient's degree of compromise due to underlying disease.

Over the past 10 to 20 years, some *Acinetobacter* strains have become resistant to one or more commonly used antibiotics. These are sometimes referred to as "drug resistant" or "multi-drug resistant" *Acinetobacter*. Resistance is more commonly seen in hospital-related strains than in those from the general community. Resistant *Acinetobacter* infections may need to be treated with less commonly used antibiotics, and may also require special actions to prevent transmission to other patients or to health care workers. These may include: enhanced contact precautions; patient and staff cohorting; aggressive disinfection of patient rooms; and detailed epidemiologic studies to identify a source or mode of transmission. Additional recommendations for prevention of transmission in healthcare settings can be discussed in consultation with your local health department, and can involve the Office of Health Care Quality or the Office of Epidemiology and Disease Control Programs as needed.

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