

Risk factors identified in patient-to-patient transmission of resistant bacteria

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Three key factors increase the risk for patient-to-patient transmission of an extremely drug-resistant bacteria known as CP-CRE, according to a new study published today in *Infection Control & Hospital Epidemiology*, the journal of the Society for Healthcare Epidemiology of America. The research helps explain why some contacts of an infected patient acquire the dangerous bacteria while others do not.

"The spread of CP-CRE is a major public health concern because it is extremely drug resistant; however, the research on these pathogens is very limited, and so is our knowledge of their transmission," said Vered Schechner, MD, MSc, lead author of the study and an [infection control](#) physician in the department of epidemiology at Tel Aviv Sourasky Medical Center in Israel. "Identifying high-risk groups helps us to avoid excessive screening that can be risky and expensive, and to determine who should be screened and who might be a candidate for pre-emptive isolation or antibiotics."

CP-CRE, which stands for carbapenemase-producing carbapenem-resistant Enterobacteriaceae often affects patients in hospitals, nursing homes and other healthcare settings who require devices such as ventilators and catheters, and those who are taking long courses of certain antibiotics. Comparing infected patients with those showing no signs of CP-CRE, researchers found that 96 percent of patient-to-patient transmissions had at least one identified risk factor:

- Contact for more than three days with the infected individual;

- Mechanical ventilation; or
- Infection with another multidrug-resistant organism.

Additionally, researchers found that patients who had taken cephalosporins, a type of antibiotic, were less likely to acquire CP-CRE from another patient than those administered other antibiotics. Since antibiotic use is a risk factor for acquiring antibiotic-resistant organisms, it appears that cephalosporins might reduce the risk for CP-CRE compared to other drugs. However, there was no protective effect of cephalosporin when compared to patients receiving no antibiotics, and researchers said further study is needed.

The study was based on data from 3,158 adult inpatients who were screened for CP-CRE because of contact with another patient diagnosed with the pathogen between October 2008 and June 2012. In total, 53 [patients](#) were positive for CP-CRE and served as the case group, along with a group of 106 who had screened negative for CP-CRE.

More information: Anat Schwartz-Neiderman et al, Risk Factors for Carbapenemase-Producing Carbapenem-Resistant Enterobacteriaceae (CP-CRE) Acquisition Among Contacts of Newly Diagnosed CP-CRE Patients, *Infection Control & Hospital Epidemiology* (2016). [DOI: 10.1017/ice.2016.153](#)

Provided by Society for Healthcare Epidemiology of America

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