

# Drug regimen may eliminate colonization with superbug CRE

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Orally administered, nonabsorbable antibiotics were effective in eradicating carbapenem-resistant Enterobacteriaceae (CRE) colonization, according to a new study published in the December issue of the *American Journal of Infection Control*, a publication of the Association for Professionals in Infection Control and Epidemiology (APIC).

Researchers at Rambam Health Care Campus, a 1,000-bed, tertiary care center in Haifa, Israel, examined isolates from 152 [patients](#) who were identified as CRE carriers (colonized with the organism, but not yet showing disease) over a 24-month period. There were 50 patients in the treatment group, who received one of three drug regimens based on antibiotic sensitivities of their isolates: nonabsorbable gentamicin (26), colistin (16), or a combination of the two (8). Patients received treatment until cultures were negative for CRE, or for a maximum of 60 days.

Patients not sensitive to either antibiotic, or those who did not give consent (102), comprised the control group and were also followed (median=140 days) in order to determine the spontaneous eradication rate.

CRE was eradicated in 42 percent of patients taking gentamicin (11/26), 50 percent taking colistin (8/16), and 37.5 percent taking a combined treatment (3/8), for an overall eradication rate for patients on all treatment regimens of 44 percent (22/50). This compares to a 7 percent

(7/102) eradication rate in the control group.

In patients where [colonization](#) was stamped out, regardless of whether they received treatment, there were fewer deaths than in those where colonization persisted (17 percent vs. 49 percent, respectively).

"Treatment with oral nonabsorbable antibiotics, to which CRE is susceptible, appears to be safe and effective for eradication of the CRE carrier state," say the researchers in the study. "Reducing the reservoir of CRE carriers in healthcare facilities may thereby reduce patient-to-patient transmission and the incidence of clinical infection with this difficult-to-treat organism. When mortality rate in patients who had successful eradication of the carrier state (either spontaneous or on [treatment](#)) was compared with that of patients failing eradication, significantly lower mortality was found in the former group. This could point toward a real reduction of mortality attributed to the eradication of CRE carrier state."

According to the U.S. Centers for Disease Control and Prevention (CDC), untreatable and hard-to-treat infections from CRE are on the rise among patients in medical facilities. These bacteria have become resistant to nearly all the [antibiotics](#) currently available and can transfer their resistance to other organisms. According to the CDC, almost half of patients who get bloodstream infections from CRE germs die from the infections.

**More information:** [www.ajicjournal.org/article/S0196-6553\(2013\)2900889-4/fulltext](http://www.ajicjournal.org/article/S0196-6553(2013)2900889-4/fulltext)

Provided by Association for Professionals in Infection Control

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