

Letter to the Editor

## Spontaneous eradication of a NDM-1 positive *Klebsiella pneumoniae* that colonized the intestine of an asymptomatic carrier

To the Editor,

Carbapenem resistant *Enterobacteriaceae* (CRE) carrying a novel class B carbapenemase, New Delhi metallo-beta-lactamases (NDM-1) has been increasingly encountered worldwide.<sup>1,2</sup> The multidrug resistant characteristics and the ease of dissemination of these CRE emphasize the importance of effective infection control measures to control their spread and reduce their impact.

In Taiwan, the first patient carrying a *Klebsiella pneumoniae* harboring NDM-1 was identified recently.<sup>3</sup> He was asymptomatic and the *K pneumoniae* was considered as an intestinal colonizer. Strict contact precautions were implemented when the patient was taken care in the hospital setting. After the condition became stable, the patient was discharged in accordance to the Taiwan Centers for Disease Control (CDC) suggestion, despite the patient still had colonization of the pathogen. However, there is some dispute regarding the decision. Some advocated continuously quarantining the patient and aggressively decolonizing the patient before he could be discharged. Currently, there is little information on when the contact precautions can be discontinued for patient who is colonized with multidrug resistant Gram negative bacteria.<sup>4</sup> Nevertheless, the patient is allowed to have certain ranges of ambulation, socialization, and use of common areas if he does not have draining wounds, diarrhea, or uncontrolled secretions and can follow the recommended precautions.<sup>4</sup> Currently, it is also not suggested to routinely decolonize the multidrug resistant organisms, as the efficacy is unknown and the procedure might select strain with drug resistance. To date, there is no information whether the CRE, as our case with NDM-1, will eradicate spontaneously, and if the answer is yes, when it will occur.

Our patient was regularly followed up by Taiwan CDC after discharge and his fecal samples were regularly detected for the presence of NDM-1 positive *K pneumoniae* by conventional and polymerase chain reaction detection methods. About 1 month after the first isolation of the NDM-1 positive *K pneumoniae*, Taiwan CDC announced that the bacterium was not detected in three consecutive samples from rectal swabs. The results suggest that the NDM-1 carrying bacteria will eradicate spontaneously in the absence of antibiotic selection, and the event

occurs quite soon. To date, no spread of CRE carrying NDM-1 is found in Taiwan. Taken together, these results suggest the appropriateness of the decision to allow the patient to be discharged in the absence of antibiotic selection and when he could follow the recommended precautions.

### References

1. Huo TI. The first case of multidrug-resistant NDM-1-harboring *Enterobacteriaceae* in Taiwan: here comes the superbacteria! *J Chin Med Assoc* 2010;**73**:557–8.
2. Kumarasamy KK, Toleman MA, Walsh TR, Bagaria J, Butt F, Balakrishnan R, et al. Emergence of a new antibiotic resistance mechanism in India, Pakistan, and the UK: a molecular, biological, and epidemiological study. *Lancet Infect Dis* 2010;**10**:597–602.
3. Wu HS, Chen TL, Chen IC, Huang MS, Wang FD, Fung CP, et al. First identification of a patient colonized with *Klebsiella pneumoniae* carrying blaNDM-1 in Taiwan. *J Chin Med Assoc* 2010;**73**:596–8.
4. CDC, Healthcare Infection Control Practices Advisory Committee. *Management of multidrug-resistant organisms in healthcare settings*. Atlanta, GA: US Department of Health and Human Services. CDC, Healthcare Infection Control Practices Advisory Committee; 2007. Available at: <http://www.cdc.gov/ncidod/dhqp/pdf/ar/mdroguideline2006.pdf>; 2006.

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