

August 13, 2010

Dear Colleagues

Re: Lancet Infectious Disease Article on New Antibiotic Resistant Organism

A Lancet Infectious Diseases article (In Press, Aug. 11, 2010) describes the prevalence of gram negative bacteria (such as *E. coli* and *Klebsiella* species) resistant to carbapenems in the United Kingdom and India. The resistance was mediated via New Delhi Metallo-1 B-Lactamase -1 (NDM-1) encoded by a gene designated *bla*_{NDM-1}. The gene is carried on plasmids with the implication being that the plasmid and the resistance could be transferred among different strains of bacteria. Furthermore, this gene is being detected in gram negative organisms that are already highly resistant due to genes previously acquired.

The authors found 143 NDM-1 isolates from India and Pakistan, many of which were from individuals in the community suggesting that the problem is widespread in these countries. In the UK, they identified 29 patients with NDM-1 bacteria. Of these 17 had travelled to India or Pakistan and 13 had been admitted to a hospital there. The isolates were from patients with a variety of infections including urinary tract infections, pneumonia, and blood-stream infections.

We are also aware of an Alberta patient who was identified with an infection with a NDM-1 isolate in the Spring of this year. This individual had travelled to India and had been admitted to hospital there.

Clinical Implications

This new and emerging problem means that physicians who are treating patients with infections should ask about recent travel and/or hospital treatment in other countries. It goes without saying that in health care settings routine infection control strategies (including meticulous hand hygiene) are critical in preventing the spread of these and other infections.

There is no indication to screen asymptomatic patients for carriage of this strain.

Appropriate clinical specimens should be submitted for patients with infections and a notation of recent travel abroad (and destination) to which countries would be useful. If you receive a report concerning an NDM-1 isolate, consultation with an Infectious Diseases specialist about clinical issues and a medical microbiologist about laboratory issues should be obtained.

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