Join us for an informal science talk

Monday, February 25 at 4:00 pm
Jacobs School of Medicine and Biomedical Sciences
955 Main St., Room 2220A

“Hypervirulent Klebsiella pneumoniae, an evolving public health threat”

A hypervirulent Klebsiella pneumoniae (hvKp) pathotype is undergoing global dissemination. In contrast to the usual healthcare-associated epidemiology of classical K. pneumoniae (cKp) infections, hvKp causes tissue invasive infections in otherwise healthy individuals from the community. Infection often involves multiple sites that require source control (e.g. abscesses, necrotizing fasciitis) or locations that require site-specific therapy (e.g. endophthalmitis, meningitis). Initial strains of hvKp were antimicrobial susceptible, however, recently hvKp strains have been acquiring genes that encode extended-spectrum β-lactamases and carbapenemases. The reverse direction of transfer also can occur. Recently an extensively drug-resistant (XDR) cKp strain acquired part of an hvKp virulence plasmid, thereby conferring it with a hypervirulent phenotype. The significance of this development is that hvKp is evolving into the ultimate “superbug” that is positioned to displace classical K. pneumoniae (cKp). The consequences will be lethal, as evidenced by the XDR hvKp ICU outbreaks described to date. The goal of this proposal is to increase our limited understanding of the factors and generate initial insights into the mechanisms responsible for hvKp’s hypervirulent phenotype. This, in turn, will enable logical strategies to prevent or treat infections due to this true superbug.

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Free and open to the public
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