

P2563 From the long-term care to the acute care setting: an outbreak of carbapenemase-producing *Serratia marcescens* in a long-term care facility detected by a nearby hospital in Miami, FL.

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Background: *Serratia marcescens* is known to harbor various mechanisms of resistance to carbapenems. Carbapenemase-producing *Serratia marcescens* (CPSm) is infrequently associated with outbreaks in healthcare settings compared to other carbapenemase-producer *Enterobacteriaceae* (CPE).

We describe an outbreak of CPSm identified as present on admission (POA) to a community hospital and the subsequent source investigation leading to a long-term-care facility (LTCF).

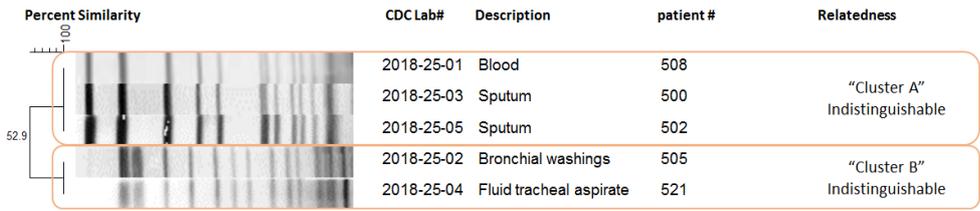
Materials/methods: The outbreak was detected by a 382-bed acute-care hospital in Miami, FL from March to November 2018 on patients admitted from a LTCF with CPSm POA. The isolates were identified as carbapenem-resistant by Vitek2 system and tested for carbapenemase production by CarbaNP test. Afterwards, the isolates underwent PCR and further testing.

The local department of health (DOH) was notified; subsequently, an outbreak investigation was conducted at both facilities by the infection control team of the hospital along with the DOH and leadership of the LTCF. The DOH collected rectal surveillance cultures at the LTCF from the residents for several weeks; additionally, all patients transferred from the LTCF to the hospital were placed on contact precautions and screened for CPE by tracheal aspirate. DOH provided education and support for management of CPE at the LTCF.

Results: unique patients from the LTCF had CPSm isolated from respiratory sources; all were admitted to the acute-care facility. All isolates were resistant to meropenem, aztreonam, cefepime, and ceftazidime. Ten (71%) isolates tested positive for *bla*KPC. The median age was 64; with nine (64%) female patients. Crude mortality rate was 27%. All patients had tracheostomy and PEG tube POA, of which seven (50%) were dialysis dependent, eleven (78%) also had meropenem-resistant *P. aeruginosa* in respiratory sources, and six (43%) were admitted with pneumonia. Only 7 (50%) patients tested positive on surveillance cultures. Preliminary PFGE showed two different clusters (Figure 1).

Conclusions: We describe a large CPSm outbreak in hospitalized patients transferred from a single LTCF. Rectal surveillance cultures only identified half of the cases POA and all the infections were from a respiratory source. Infection control practices and cooperation between acute-care, LTCF and DOH can help identify and control such outbreaks which would otherwise be missed.

Figure 1. Dendrogram KPC+ *Serratia marcescens*, FL. 07/26/18.



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