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CONTROLLING A CRE OUTBREAK UTILISING COST EFFECTIVE MICROBIOLOGICAL TESTING METHODS SABATEEN A, NASSER D AND HINDIYEH M

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Background: Infections by Carbapenem-Resistant Enterobacteriaceae (CRE) are a significant public health challenge in the Mediterranean region. New strains of emerging resistance have been recorded in Palestine. Despite the lack of a mandatory surveillance; Augusta Victoria Hospital has actively screened for multidrug resistant microorganisms (MDROs) among newly admitted patients due to endemic patterns in the country and the region and performs surveillance for Health Care Associated Infections (HAIs). In May 2017 a septic workup for a skilled nursing facility patient suffering from pneumonia revealed CRE in her urine while her admission screening swabs had been negative.

Methods: Re-screening of all patients within the unit as per local policy was implemented and CRE detection was determined based on rectal swabs cultured on a cost effective agar of Mackonkey/ Meroponem 0.5 ug/ml agar concentration plates incubated for 18-24 hours. The bacteria growth on the selective agar was identified on the VITEK 2 bioMerieux, CRE genotype was confirmed by Modified Hodge test and genetically typed by PCR for Carbapenem resistant genes.

Results: All cases were identified as New Delhi metallo-beta-lactamase 1 (NDM-1). The cases were considered colonized and no treatment was initiated, cohorting of patients was implemented; rescreening was performed twice weekly initially, monthly thereafter, coupled with daily mapping of patients to track colonization patient placement accordingly in the two beds per room unit. The ID and Pharm D initiated rounds to promote rational use of antibiotics & CDC measures for CRE control reemphasized apart from Chlorhexidine baths which had an undesirable effect on the skin of the old patients.

Conclusion: The use of a cost effective method of testing allowed for rescreening and effective patient placement leading to effective control of an outbreak leading to zero reporting in August 2017.

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