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O0583 Is it possible to get rid of multidrug-resistant Acinetobacter baumannii (MDR-Ab) in endemic ICU?

Marianna Meschiari*[3], Gabriella Orlando[3], Marianna Menozzi[3], José-María López-Lozano[6], Carola Gimenez-Esparza[2], Mario Sarti[4], Elena Vecchi[1], Elisabetta Bertellini[5], Cristina Mussini[3]

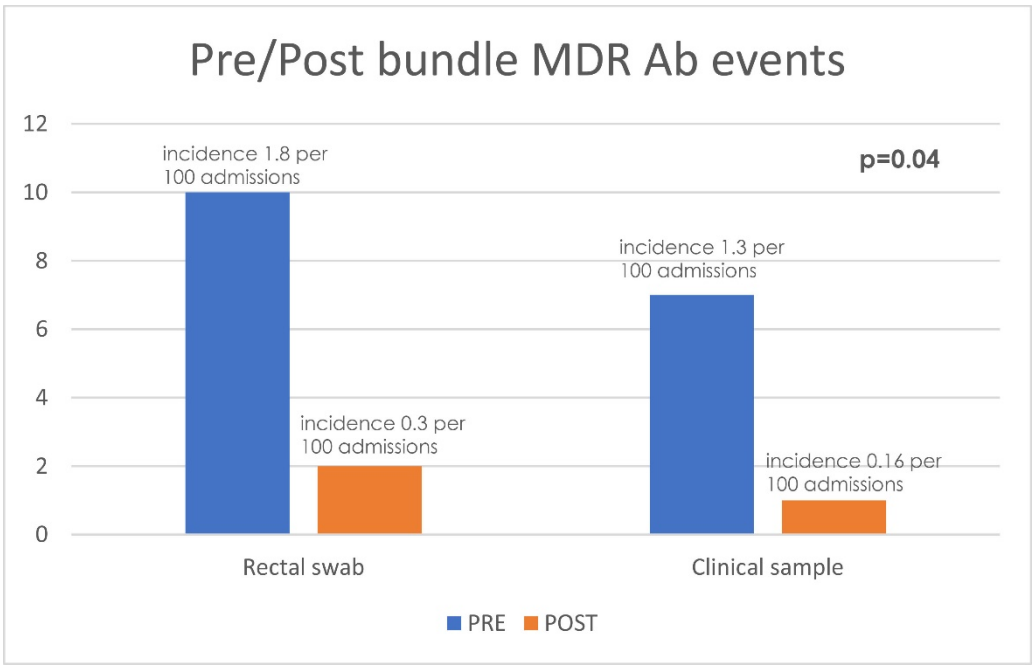
[1]University Hospital Policlinico, Hygiene and prevention department, Modena, Italy, *[2]Vega Baja Hospital, Intensive Care Unit, Orihuela-Alicante, Spain*, *[3]University Hospital Policlinico, Infectious Disease Clinic, Modena, Italy*, *[4]Nuovo Ospedale Civile S. Agostino-Estense, Microbiology laboratory, Baggiovara, Italy*, *[5]Nuovo Ospedale S. Agostino-Estense, Intensive Care Unit, Baggiovara, Italy*, *[6]Hospital Vega Baja, Medicine Preventive-Infection Control Team, Orihuela, Spain*

Background: *Acinetobacter* has been increasingly recognized as a significant healthcare-associated, opportunistic, multidrug-resistant pathogen, potentially responsible for hospital outbreaks. Mostly multidrug-resistant *Acinetobacter baumannii* (MDR-Ab) infections have occurred in critically ill patients receiving invasive medical interventions such as central lines, and mechanical ventilation. Given the great environmental resistance, MDR-Ab has become endemic in many European Intensive Care Units (ICUs). We propose an MDR-Ab bundle, to manage and eliminate transmission of MDR-Ab in ICU outbreaks.

Materials/methods: Since May 2017 at Azienda Ospedaliero-Universitaria Modena a five-step MDR-Ab bundle has been implemented in a 24 bed ICU. The bundle was composed of: active surveillance with universal screening on admissions and weekly for MDR-Ab by rectal swabs; contact isolation for all patients until their discharge (regardless whether infected/colonized by MDR-Ab or not); environmental sampling by pre-moistened thioglycollate sterile gauze pads; cycled disinfection without closing the ward (using a single room as the transfer place where to put each bed during the disinfection of each patient unit); training for health-care workers (HCW) (about infection control measures and antimicrobial stewardship). We performed a before and after analysis of MDR-Ab isolates 5 months before and after the application of the bundle. Incidence rate was calculated using ratio between number of cases and number of patients admitted during the study period, standardized per 100 admissions.

Results: Picture 1 shows MDR-Ab isolates in the 5 months before and after the bundle implementation. From January to May 2017 10 cases of rectal colonization (incidence 1.8%) and 7 cases of infection (incidence 1.2%, in particular 1 blood stream infection, 5 ventilator-acquired pneumonia, 1 urinary tract infection) from MDR-Ab were recorded in the ICU. After the implementation of the bundle no more nosocomial cases of MDR-Ab acquisition were recorded in the ICU. The only 3 samples of MDR-Ab isolates after May 2017 (2 rectal swabs and one surgical wound – incidence 0.3% and 0.16% respectively) were acquired in other hospitals.

Conclusions: The application of this 5-step bundle was dramatically effective in eliminating MDR-Ab from ICU. The eradication of MDR-Ab without closing ICUs is possible through reinforcing search and destroy strategy and applying specific environmental disinfection.


Pre/Post bundle MDR Ab events
12
10
8
6
4
2
0
incidence 1.8 per 100 admissions
incidence 0.3 per 100 admissions
incidence 1.3 per 100 admissions
incidence 0.16 per 100 admissions
p=0.04
Rectal swab
Clinical sample
PRE
POST