

Epidemiology of hospital acquired bloodstream infection (BSI) caused by *Acinetobacter baumannii*: ten years of experience in a teaching hospital of northern Italy

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Background. *Acinetobacter baumannii* is a major cause of healthcare-associated infections and nosocomial outbreaks.

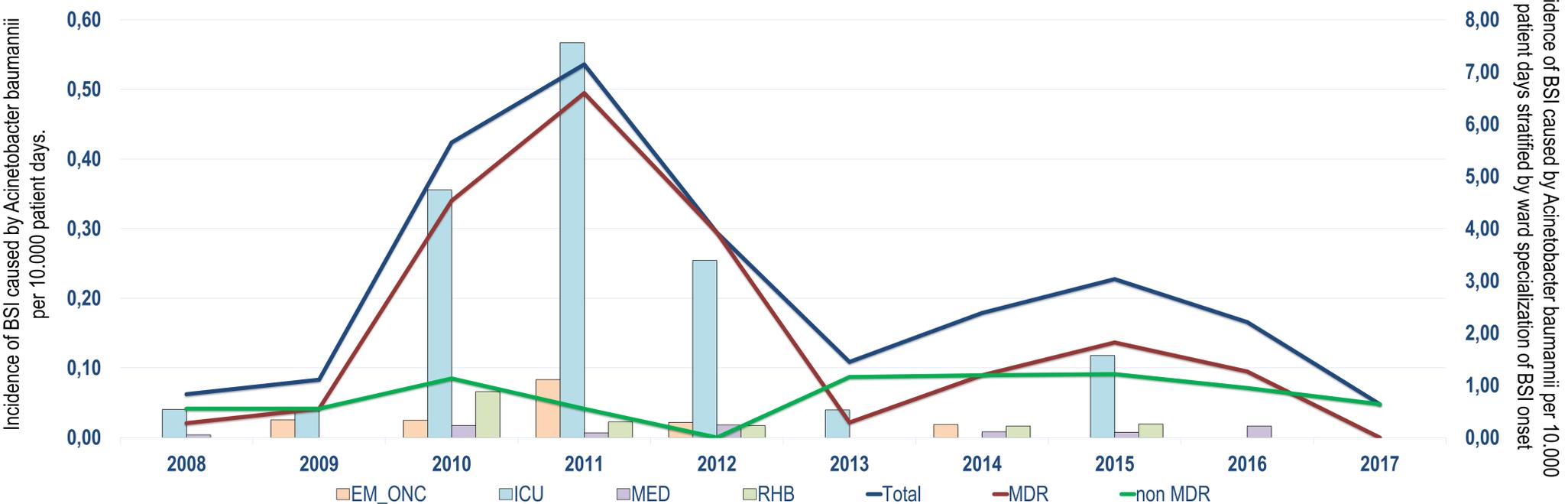
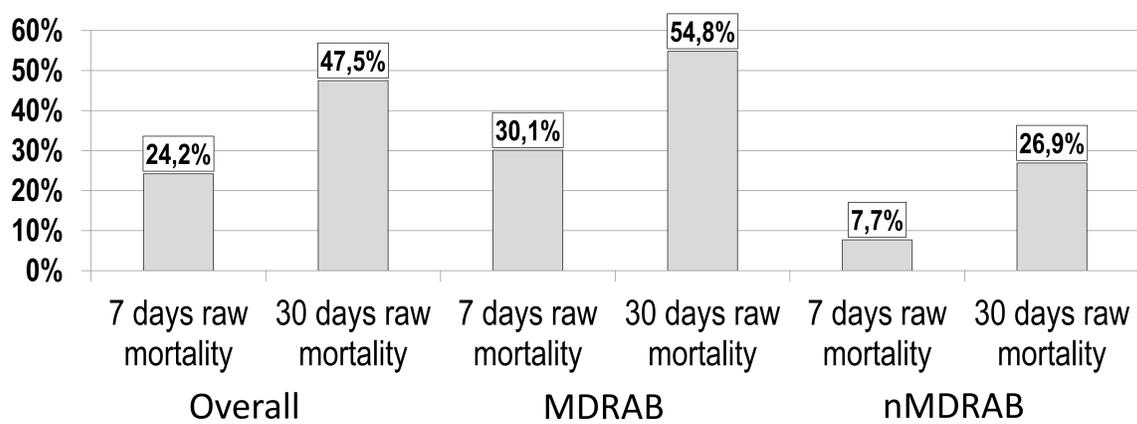
Aims. To calculate the incidence of BSI sustained by *Acinetobacter baumannii* and to evaluate the prevalence of *Acinetobacter baumannii* multidrug resistant (MDRAB) strains.

Methods. We conducted a retrospective observational study at the 1200 acute-care beds, San Martino Policlinic Hospital, located in Genoa, Liguria region, North-West Italy. We analyzed data of all patients with an hospital acquired BSI caused by *Acinetobacter baumannii* from January 2008 to December 2017.

Characteristics of the study population

	MDRAB (n=73)	nMDRAB (n=26)
Age (mean ± SD)	64,7 ± 14,7	59,2 ± 20
Sex: Male	45 (61,6%)	17 (65,4%)
Comorbid conditions*		
Charlson Score index (mean ± SD)	8,4 ± 2,9	8,7 ± 4,4
Peripheral venous catheter	70 (98,6%)	22 (91,7%)
Central venous catheter	69 (97,2%)	19 (79,2%)
Onset time (median; IQR)	24; 15 - 45	13; 6 - 34
Length of stay (median; IQR)	51; 33 - 84	35,5; 23 - 78

* Data available only for 95 patients



Results. A total of 99 hospital acquired BSIs were found, 73 caused by MDRAB and 26 by non MDR *Acinetobacter baumannii* (nMDRAB). Median age, duration of hospitalization and in-hospital mortality were respectively 66 years (IQR = 55-78), 51 days (IQR = 33-84) and 63% for the MDRAB group and 60 years (IQR = 39-71), 36 days (IQR = 23-78) and 23.1% for the nMDRAB group. 46.6% of MDRAB BSIs were diagnosed in an intensive care unit, 28.8% in a medical ward, 10.9% in a rehabilitation ward and 8.2% in a hematologic-oncological ward. The overall incidence of BSI caused by MDRAB for 10,000 patient-days, stratified by year, was 0.02 in 2008, 0.04 in 2009, 0.38 in 2010, 0.49 in 2011, 0.29 in 2012, 0.02 in 2013, 0.09 in 2014, 0.14 in 2015, 0.09 in 2016 and finally 0.00 in 2017.

Conclusions. In recent years there has been a downward trend in the incidence of BSI caused by *Acinetobacter baumannii*, largely due to the decreased circulation of MDR strains.