

### OBJECTIVES

Nosocomial bloodstream infections (NBSIs) are important causes of morbidity and mortality in Tunisia. The increase of antimicrobial drug resistance makes its treatment increasingly challenging. This study aimed to analyze the epidemiology, microbiology, and the incidence of NBSI in Habib Bourguiba University hospital, a multidrug resistant setting, between 2010 and 2014.

### METHODS

#### Clinical setting and patient population :

This study was conducted in Habib Bourguiba University Hospital, Sfax, Tunisia : a 506-bed hospital which includes a 25-bed ICU and different surgical wards for five years (2010-2014).

#### Definitions and collection of data:

NBSI was diagnosed when a pathogen was isolated from a blood sample obtained after the first 48 h of hospitalization. The incidence of NBSIs was calculated per 1000 patient-days. Patients' demographic, clinical, and microbiological data were recorded and analyzed using SPSS 20.

#### Microbiological data

Blood samples were inoculated in BACT-Alert culture bottles (bioMérieux, Marcy l'Etoile, France). Antimicrobial susceptibility testing was performed according to EUCAST guidelines.

#### Multiple drug-resistant organisms (MDROs) :

- Extended-spectrum beta-lactamase-producing Enterobacteriaceae (ESBL-E)
- Carbapenemase-producing Enterobacteriaceae (CRE)
- Plasmidic cephalosporinase producing Enterobacteriaceae (pCase-E)
- Multidrug-resistant Acinetobacter (MR-AB)
- Multidrug-resistant Pseudomonas aeruginosa (MR-PA)
- Methicillin-resistant S. aureus (MRSA)
- Vancomycin-resistant Enterococcus (VRE)
- Vancomycin-resistant Staphylococcus aureus (VISA)
- Stenotrophomonas maltophilia,

### CONCLUSIONS

- The organisms identified as causing NBSI were predominately gram negative which may indicate that the patients are heavily colonized with gram negative
- High and steadily increasing incidence rate of NBSI due to MDROs in this setting

### RESULTS

1005 NBSI were identified in 827 patients :

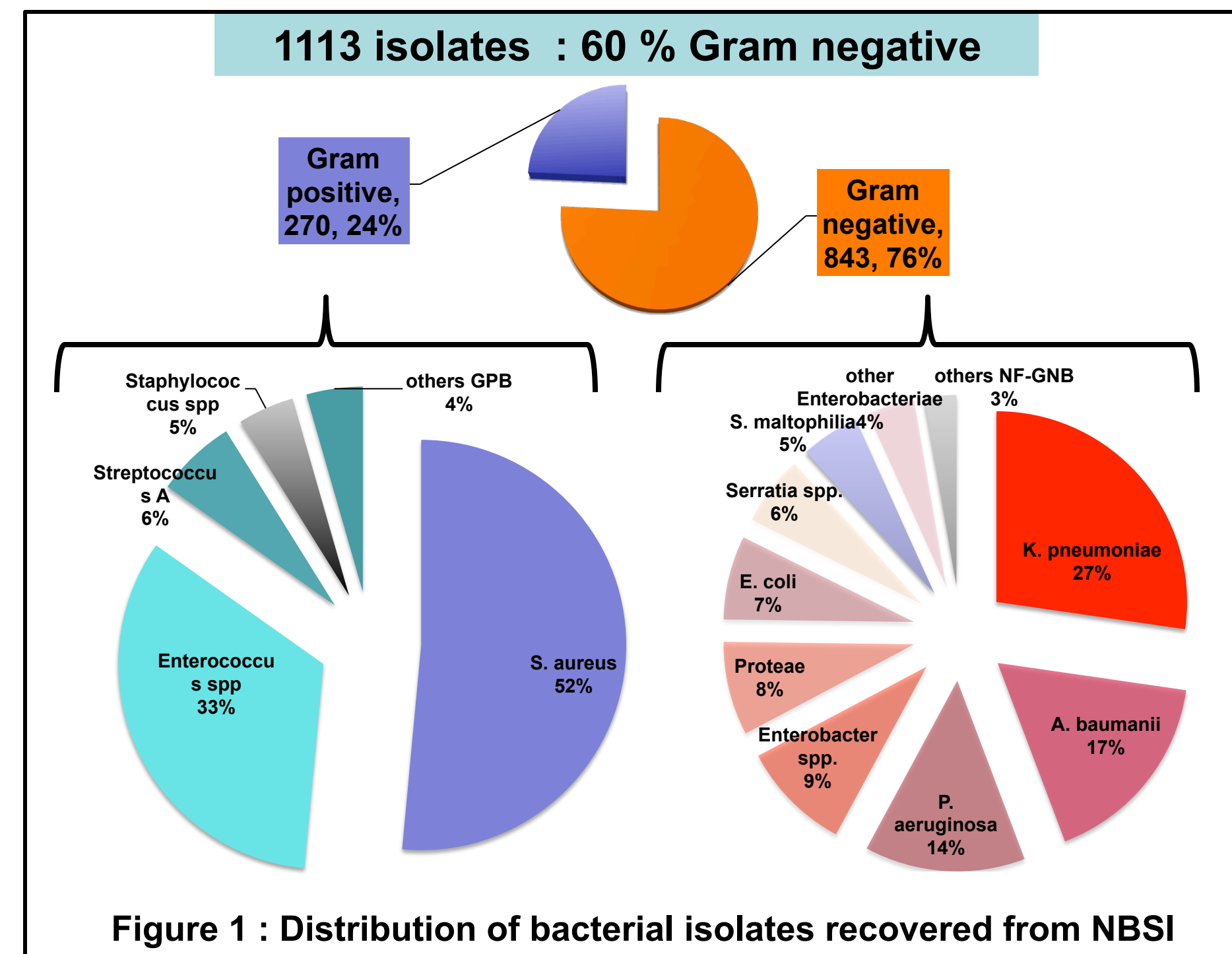


Figure 1 : Distribution of bacterial isolates recovered from NBSI

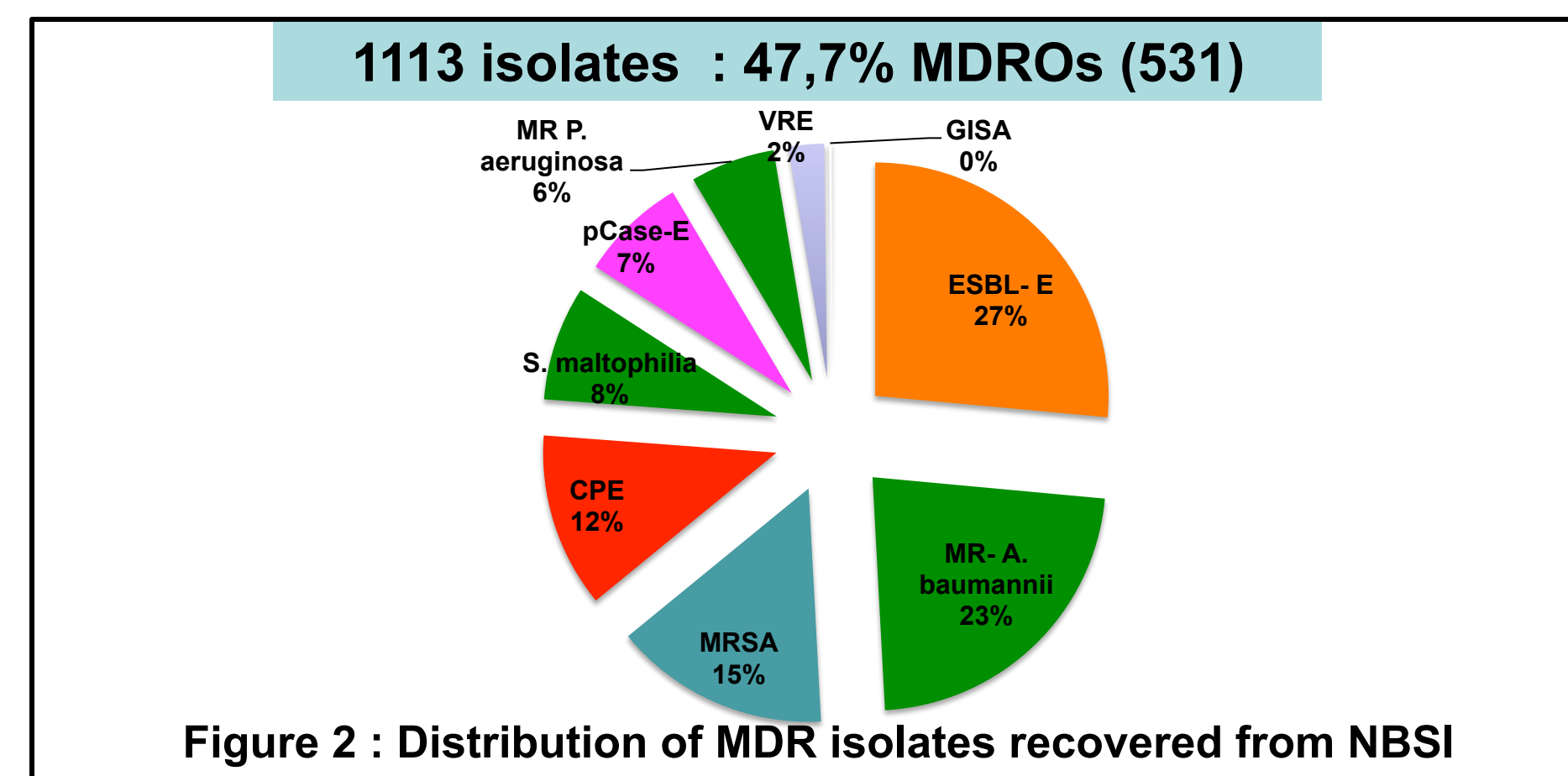


Figure 2 : Distribution of MDR isolates recovered from NBSI

#### Antibiotic resistance rates

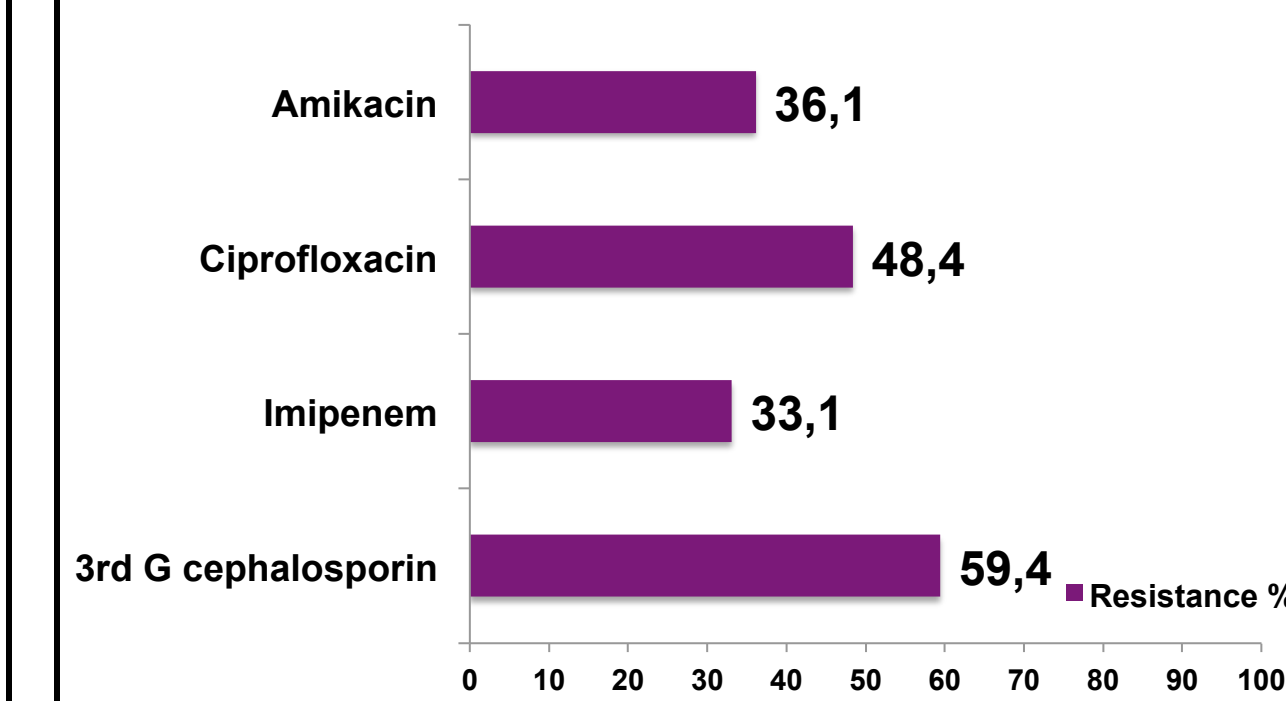


Figure 3 : Resistance rate of GNB

#### NBSI Incidence : 1,4 /1000 patient days

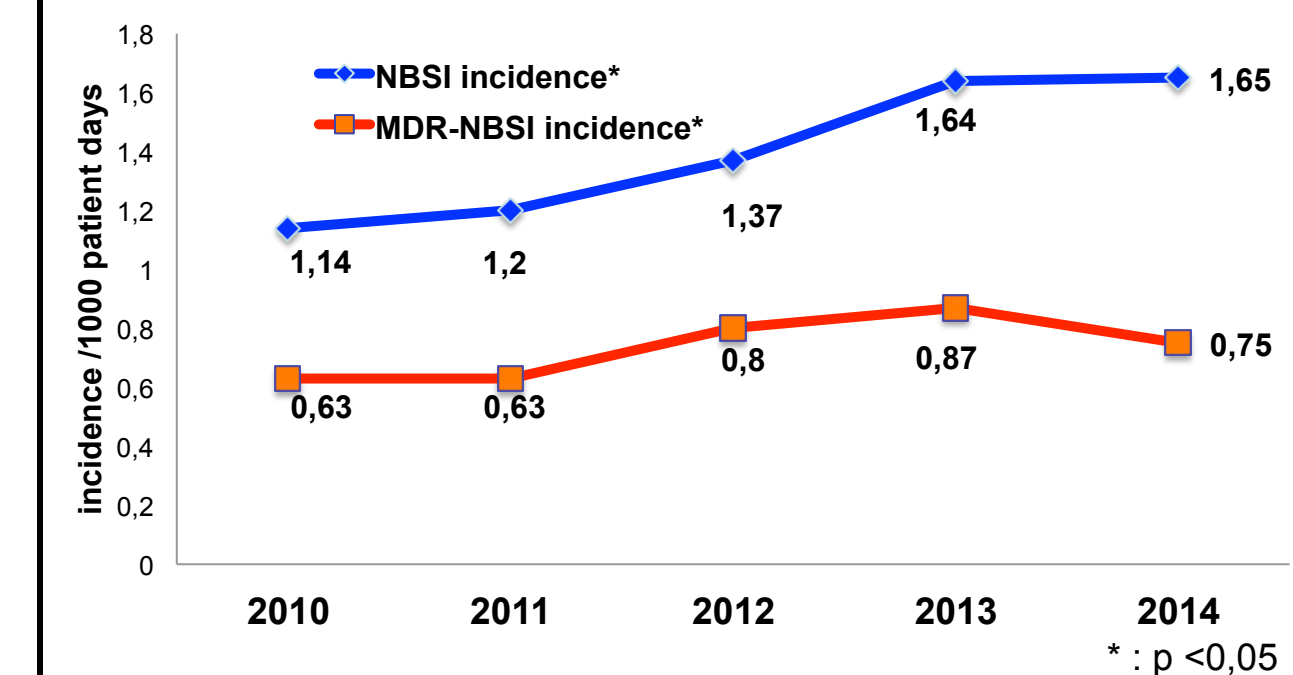


Figure 4 : NBSI incidence evolution

#### NBSI incidence rate according to wards

	Nb NB	Incidence NBSI (/1000 patient-days)	Nb MDR-NBSI	Incidence MDR-NBSI (/1000 patient-days)
ICU *	485	11,8	277	6,74
Burn unit *	190	15,13	106	8,44
emergency	66	3,02	28	1,28
Surgical wards	264	0,62	120	0,19
Total	1005	1,4	531	0,74

\* : p <0,05 ICU/Burn unit versus other wards

#### MDR-NBSI incidence rate trends

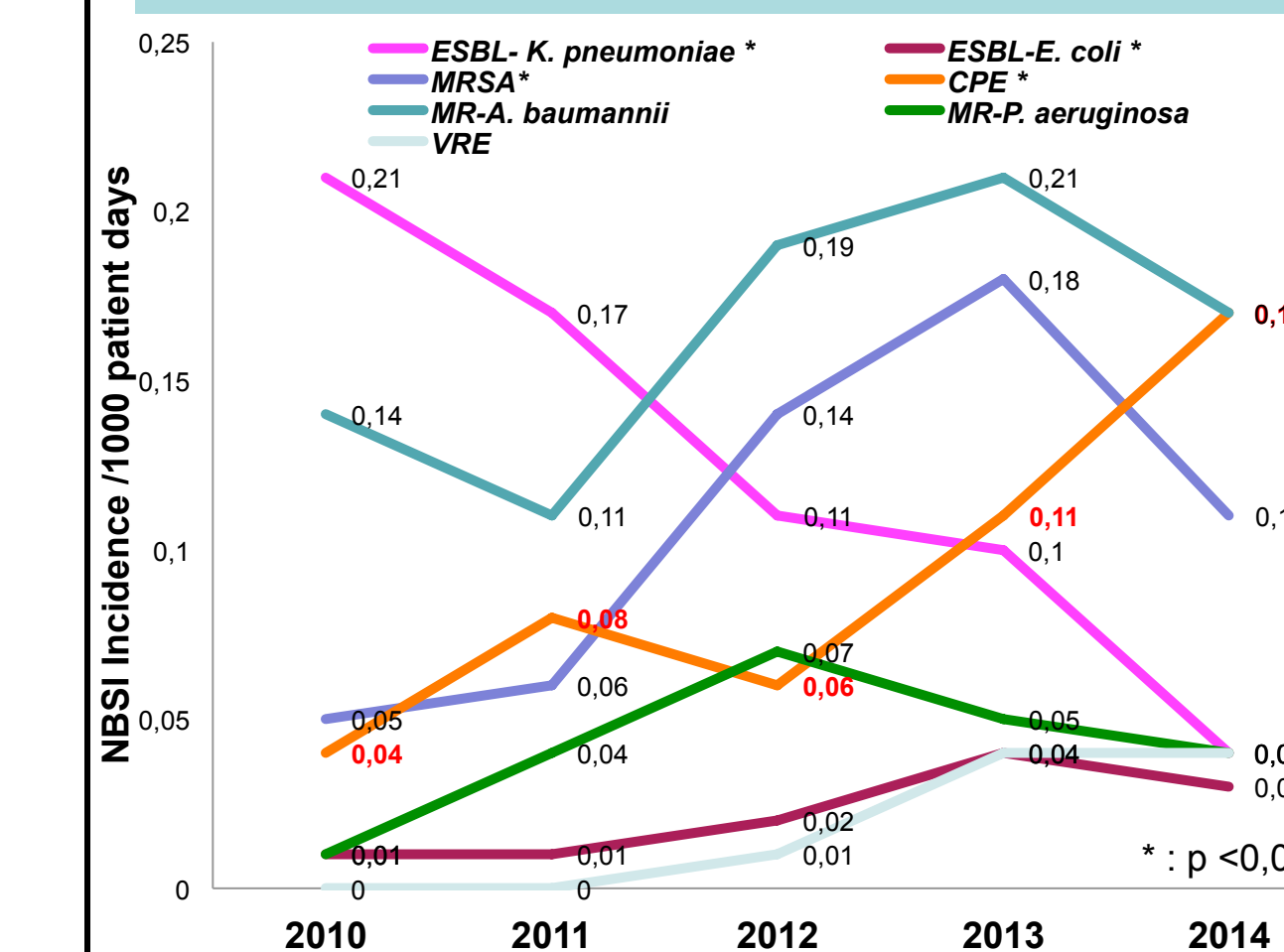


Figure 5 :NBSI incidence according to MDROs