

P0680 **Changing epidemiology in bloodstream infection in haematopoietic stem cell transplant recipients: a 25-year experience in a university hospital**

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**Background:** We aimed to describe the epidemiology changes in bloodstream infections (BSI) in hematopoietic stem cell transplant (HSCT) recipients throughout the 25-year experience of our HSCT program.

**Materials/methods:** All episodes of BSI in patients with HSCT were prospectively collected (1992-2016). We describe the changing epidemiology comparing five-year time spans.

**Results:** 1115 episodes of BSI were documented in 788 patients who underwent HSCT (73% allogenic and 27% autologous). Mean age was 43 years (IQR 31-52) and 674 (60%) were males. Most had prior acute leukemia (29%) and non-Hodgkin lymphoma (18%). The most frequent sources of infection were catheter (46%) and unknown/endogenous (42%). Most important epidemiologic changes over time are detailed in table 1. We identified 114 (10%) multidrug-resistant (MDR) microorganisms (22% among Gram negative bacteria [GNB]). A significant decrease in Gram positive (GP) microorganisms (from 71% to 50%,  $p=0.001$ ) and an increase in GNB (from 32% to 47%,  $p=0.018$ ) and in MDR strains ( $p<.001$ ) were documented.

**Conclusions:** Our study showed marked changes in BSI in patients with HSCT over the study period. A significant decrease in GP and increase in MDR-GNB were documented. These changes must be taken into account to determine potential prophylaxis therapy and antibiotic empirical treatments.

**Table 1. Changes over time in epidemiology of BSI in HSCT recipients.**

	1992-1996 N=235 (%)	1997-2001 N=352 (%)	2002-2006 N=129 (%)	2007-2011 N=219 (%)	2012-2016 N=180 (%)	p-value for trend
CoNS	128 (54.5)	156 (44.3)	57 (44.2)	81 (37)	50 (27.8)	<0.001
<i>E. coli</i>	19 (8.1)	34 (9.7)	20 (15.5)	27 (12.3)	30 (16.7)	0.031
ESBL*	1 (5.3)	0 (0)	1 (5)	7 (25.9)	11 (36.7)	<0.001
<i>Pseudomonas spp</i>	18 (7.7)	36 (10.2)	11 (8.5)	40 (18.3)	33 (18.3)	<0.001
MDR*	1 (5.6)	2 (5.6)	1 (9.1)	18 (45)	14 (42.4)	<0.001
Carbapenem-resistant*	0 (0)	1 (2.8)	1 (9.1)	17 (42.5)	16 (48.5)	<0.001
<i>Klebsiella spp</i>	3 (1.3)	12 (3.4)	9 (7)	14 (6.4)	8 (4.4)	0.029

<b>MDR*</b>	0 (0)	0 (0)	4 (44.4)	1 (7.1)	0 (0)	<0.001
<b>BSI caused by MDR-GNB</b>	11 (4.7)	15 (4.3)	9 (7)	33 (15.1)	28 (15.6)	<0.001

\*Percentage among their specie.