

ORAL ABSTRACTS

**1801. Organism profile and antimicrobial resistance patterns of healthcare-associated bloodstream infections in oncology settings**

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**Background.** Recent antimicrobial resistance (AR) data are lacking from inpatient oncology (ONC) settings to guide infection prophylaxis and treatment recommendations. We describe central line-associated bloodstream infection (CLABSI) pathogens and AR patterns reported from ONC locations to the CDC's National Healthcare Safety Network (NHSN).

**Methods.** CLABSIs reported to NHSN from 2009-2012 from ONC and non-oncology (NONC) inpatient locations in the same hospitals were compared. Proportions were compared with X<sup>2</sup> tests and CLABSI rates (per 1000 central-line days) with Poisson regression.

**Results.** ONC locations in 220 hospitals reported 5,948 CLABSIs due to 6,615 organisms. These hospitals reported 18,302 CLABSI due to 20,392 organisms from NONC locations. The most common ONC location CLABSI organisms were coagulase-negative staphylococci (CNS, 16.0%), *Escherichia coli* (11.5%) and *Enterococcus faecium* (10.2%) (table). Fluoroquinolone resistance (FQ-R) was more common among *E. coli* CLABSIs in ONC than NONC locations (51.6% vs 31.7% of isolates tested, *P* < 0.0001). Among organism/AR classes evaluated in ONC location CLABSIs, only FQ-R in *E. coli* increased significantly between 2009-10 and 2011-12 (45.1% vs 55.3%, *P* = 0.009). Furthermore, rates of FQ-R *E. coli* and vancomycin-resistant *Enterococcus* (VRE) *faecium* CLABSI (per 1000 central-line days) were significantly higher in ONC compared to NONC locations (FQ-R *E. coli* rate ratio [RR] 5.5, 95% confidence interval [CI] 4.7-6.4; VRE *faecium* RR 2.0, 95% CI 1.8-2.3).

**Conclusion.** VRE *faecium* and FQ-R *E. coli* are significant CLABSI pathogens in ONC units, and rates of *E. coli* FQ-R increased recently, likely a result of widespread FQ use (e.g., prophylaxis). AR was higher in ONC than in NONC locations for some but not all pathogens. Guidelines for antimicrobial use in ONC patients may need to account for changes in AR patterns over time.

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CLABSI Organism and AR class	Oncology Rank	Oncology, N=6,615		Non-oncology, N=20,392		P for %AR
		n (%)	% AR	n (%)	% AR	
CNS	1	1058 (16.0)		3895 (19.1)		
<i>E. coli</i>	2	758 (11.5)		859 (4.2)		
FQ-R			51.6		31.7	<0.001
<i>E. faecium</i>	3	677 (10.2)		1225 (6.0)		
VRE			80.7		82.7	0.74
<i>Staphylococcus aureus</i>	4	623 (9.4)		2727 (13.4)		
MRSA			41.2		46.7	0.02
<i>Klebsiella oxytoca/pneumoniae</i>	5	614 (9.3)		1703 (8.3)		
FQ-R			10.0		15.0	0.003