

real BSI, respectively. Of those judged to be contaminants, 10 (20%) were positive in both bottles within a set, and thus falsely suggested true BSI. Of the 3 judged to be true BSI, 2 (66%) were positive in 1 out of 2 bottles, and thus falsely suggested contamination.

42 (84%) patients had repeat BCx drawn following the initial positive culture, and 26 (52%) were continued on IV antibiotics. Forty (80%) of the cultures were judged contaminants by the primary medical service, and 77% stopped antibiotics (20/26) when CoNS was identified.

Conclusion. These data show that reporting the number of bottles which are positive within a set provides misleading information and should not be used to determine whether a culture result represents contamination or true BSI.

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162. Identifying Determinants of Therapeutic Switch to Linezolid among Patients with Methicillin-Resistant *Staphylococcus aureus* Bloodstream Infections

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Background. In order to target future randomized controlled trials (RCT) of treatment of methicillin-resistant *S aureus* bloodstream infections (MRSA BSI), it will be important to understand the drivers of antibiotic selection. We aimed to determine factors associated with switching from vancomycin to inpatient linezolid administration during the management of MRSA BSI.

Methods. This retrospective cohort included all patients admitted to Veteran Affairs hospitals from 2007 to 2014 and had received vancomycin for MRSA BSI. Patients were considered to have switched to linezolid from vancomycin if they received at least 2 consecutive days of inpatient treatment and were not on concurrent vancomycin treatment. Cox proportional hazards models were used to identify factors that were associated with switch within 14 days and 30 days. Median with interquartile range (IQR), hazard ratio (HR) and 95% confidence intervals were reported.

Results. Among 7289 patients diagnosed with MRSA BSI during their index admission, 474 (6.5%) switched to linezolid during the admission. The median inpatient duration of vancomycin treatment among all patients was 13 days (IQR: 5–34) and among patients who switched was 16 days (IQR: 6–52). The median inpatient duration of linezolid treatment was 5 days (IQR: 1–13 days). Patients who switched to linezolid were more likely to have a MRSA isolate with MIC ≥ 2 $\mu\text{g}/\text{mL}$ (6.8% vs. 4.9%), diagnosis of respiratory tract infection (36.7% vs. 32.9%), or be obese (16.5% vs. 13.6%) than those who continued on vancomycin ($P < 0.10$). In risk-adjustment models, presence of a respiratory tract infection diagnosis was associated with greater likelihood of being switched to linezolid within 14- and 30-days (HR=1.29, 95% CI 1.01–1.64; HR=1.32, 95% CI 1.06–1.65).

Conclusion. Less than 10% of patients initially treated with vancomycin for MRSA BSI were switched to linezolid in this real-world study. A diagnosis of respiratory tract infection was a major determinant of switching to linezolid. It is important to identify potential subsets of MRSA BSI patients so that future comparative effectiveness RCTs can be targeted to indications with clinical equipoise in real-world practice settings.

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163. Infective Endocarditis in Qatar: Risk Factors, Clinical Characteristics, Microbiology, and Outcomes

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Background. Infective endocarditis (IE) is a serious and life-threatening disease. The aim of the study is to describe the epidemiology, clinical characteristics and outcomes of patients with IE in Qatar.

Methods. Patients were identified from the electronic records of Hamad Medical Corporation hospitals, the national referral center for the State of Qatar. Those aged ≥ 18 years with Duke Criteria-based diagnosis of IE during the period from January 2015 to September 2017 were included. Data were analyzed using STATA software Version 15.

Results. Fifty-seven cases were included, of which 70% were males. Mean age was 51 years (± 16.8). Eleven (19%) were in association with prosthetic valves and 6 (11%) with implantable cardiac devices (Table 1). Fever (84%), dyspnea (46%) and heart failure were the commonest presentations. The majority of patients had preexisting valvular heart disease or intra-cardiac devices (Table 1). Skin infections (10, 18%) were

the most prevalent portals of infection, followed by venous catheters, recent valve surgery and implantable cardiac devices (Table 1). *Staphylococcus* species were implicated in 19 (34%) and *Streptococcaceae* in 9 (16%); whereas 21 (37%) were culture-negative (Table 2). Left-side IE (49, 86%) was predominant. Acute kidney injury (AKI) (17, 30%) and heart failure (11, 19%) were common complications. The most frequently used treatment regimens included glycopeptides or B-lactams (Table 2). Only 9 (16%) patients underwent surgical intervention. Fourteen (25%) patients died of any cause before hospital discharge. Logistic regression analysis identified septic shock and AKI as the only risk factors independently associated with in-hospital mortality (Table 3).

Conclusion. Skin infections are an important risk for IE in Qatar. The majority of patients with IE have preexisting cardiac conditions. *Staphylococci* are the commonest confirmed bacterial etiology of IE in Qatar, but nearly one-third of cases are culture-negative. Only a small proportion of patients with IE undergo surgical intervention and overall mortality is high. The findings suggest that efforts should be directed toward improving IE prevention strategies in high-risk patients, encourage early microbiological investigations and improved medical and surgical management.

Table 1. Baseline characteristics of 57 patients with infective endocarditis in Qatar.

Variable	Number (%)
Demographics	
Male gender	40 (70%)
Age in years (mean \pm SD)	51 (± 16.8)
Underlying Cardiac condition	
Acquired valvular disease	12 (21%)
Prosthetic valves	11 (19%)
Intra-cardiac device	8 (14%)
Bicuspid aortic valve	1 (2%)
Congenital heart disease	1 (2%)
Underlying co-morbidities	
Hypertension	24 (42%)
Diabetes mellitus	31 (54%)
Chronic kidney disease	11 (19%)
Hemodialysis	6 (11%)
Suspected port of infection	
Dental procedures	3 (5%)
Intravenous catheters	6 (11%)
Valve surgery within ≤ 2 months	6 (11%)
Pacemaker/implantable cardiac device	6 (11%)
Skin and soft tissue infection	10 (18%)
Intravenous drug use	0
Clinical Presentation	
Fever	48 (84%)
Dyspnea	26 (46%)
Heart failure	21 (37%)
Fatigue	19 (33%)
Stroke	5 (9%)
Chest pain	6 (10%)
Shock	2 (4%)
Cardiac arrest	1 (2%)
Polyarthralgia	2 (4%)
Valvular involvement	
Aortic valve	21 (37%)
Mitral valve	27 (47%)
Aortic and mitral valves	1 (2%)
Tricuspid valve	1 (2%)
Undefined	7 (12%)

Table 2. Microbiology, Management, Complications and Outcomes of IE in Qatar.

Variable	Number (%)
Microbiology	
<i>Staphylococcus</i> species	19 (34%)
Methicillin-sensitive <i>S. aureus</i>	8 (14%)
Methicillin-resistant <i>S. aureus</i>	6 (11%)
Coagulase-negative staphylococci	5 (9%)
<i>Streptococcaceae</i>	9 (16%)
Viridans Streptococci	8 (14%)
<i>S. pneumoniae</i>	1 (2%)
Others	8 (13%)
<i>Klebsiella spp.</i>	1 (2%)
<i>B. fragilis</i>	1 (2%)
<i>C. parapsilosis</i>	1 (2%)
<i>E. faecalis</i>	1 (2%)
<i>E. gallinarum</i>	1 (2%)
<i>P. aeruginosa</i>	1 (2%)
<i>S. marcescens</i>	1 (2%)
<i>Pandoraea species</i>	1 (2%)
Culture-negative	21 (37%)
Treatment	
Mode of treatment	
Medical only	48 (84%)
Medical and surgical	9 (16%)
Antibiotics Regimen	
Beta-lactam monotherapy	19 (34%)
Glycopeptide-base regimen	26 (46%)
Glycopeptide + Beta-lactam	17 (30%)
Glycopeptide monotherapy	9 (16%)
Gentamicin based therapy	6 (11%)
Others	5 (9%)
Complication	
Acute kidney injury	17 (30%)
Heart failure	11 (19%)
Embolic stroke	4 (7%)
Septic shock	10 (18%)
Outcomes	
In-hospital Mortality	14 (25%)
Length of hospital stay in days (\pm SD)	35 (± 30.1)