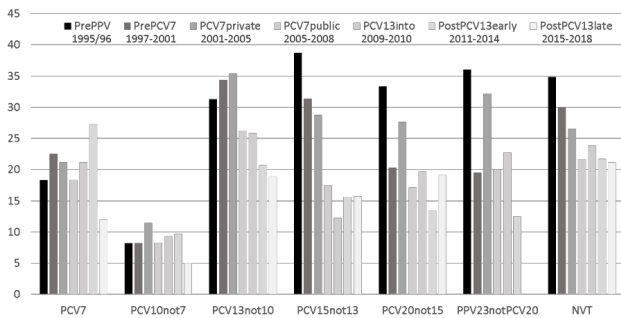


Figure

Figure: Case fatality rate over time in IPD in adults, by serotype group, TIBDN, 1995-2018



Conclusion: In our population, herd immunity from PCVs will result in a higher proportion of adult IPD occurring in immunocompromised cases, and a shift from bacteremic pneumonia to bacteremia without focus and meningitis.

Disclosures: Allison McGeer, MD, FRCP, GlaxoSmithKline (Advisor or Review Panel member, Research Grant or Support) Merck (Advisor or Review Panel member, Research Grant or Support) Pfizer (Research Grant or Support)

296. IV-to-PO Antibiotic Step-down Therapy for Treatment of Uncomplicated Streptococcal Bloodstream Infections

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Session: P-9. Bacteremia

Background: Beta-lactams are the drug of choice for uncomplicated Streptococcal bloodstream infections (BSIs). However, due to the low bioavailability of oral beta-lactams, it's unclear whether de-escalation from IV to PO therapy is safe and effective. Our objective was to compare the efficacy and safety of step-down IV-to-PO antibiotic therapy to IV-only treatment of uncomplicated Streptococcal BSIs.

Methods: This was a retrospective study at a level-1, academic medical center in New Mexico of patients ≥ 18 years of age treated for uncomplicated Streptococcal BSI between January 2017 and December 2019. The primary outcome was clinical failure in patients receiving IV-only therapy compared to IV-to-PO step-down therapy. Clinical failure was defined as having at least one of the following: persistent bacteremia, 30-day reinfection at any site or new-onset sepsis, 30-day BSI recurrence, or 30-day all-cause mortality. Secondary outcomes include 30-day all-cause readmission, 30-day antibiotic-related side effects, 30-day *C. difficile*-associated diarrhea and hospital length of stay (HLOS).

Results: A total of 98 patients were included: 51 in the IV-to-PO group and 47 in the IV-only therapy group. The median age for both groups was 61 years; 65% patients were male, and 72% were Caucasian. BSIs were predominantly associated with respiratory infections (24.5%). *Streptococcus pneumoniae* (29.6%) was the most common pathogen. Nine patients (19.1%) in the IV-only group and none in the IV-to-PO group experienced a clinical failure. 30-day reinfection at any site or new-onset sepsis (88.9%) was the primary cause of clinical failures. Fourteen patients (14.3%) were readmitted due to any cause within 30 days, 6 patients (11.8%) from the IV-to-PO and 8 (17%) from the IV-only group. Patients in the IV-to-PO group had a shorter duration of therapy than patients in the IV-only group (13 vs. 15 days, $p=0.001$), and decreased HLOS (5 vs. 12 days, $p < 0.001$). Clinical failure was not statistically different when assessed for co-morbidities, source of infection, Pitt bacteremia score, documented BSI clearance, ICU admission or pathogen.

Conclusion: IV-to-PO step-down therapy appears to be a safe and effective alternative for treating uncomplicated Streptococcal BSIs in patients who are otherwise clinical stable.

Disclosures: Keenan L. Ryan, PharmD, PhC, Theravance (Advisor or Review Panel member)

297. Lactobacillus: Friend or Foe

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Session: P-9. Bacteremia

Background: Lactobacillus are low virulence commensal organisms which are commonly found in the human oral cavity, gastrointestinal and genitourinary tracts. Although *Lactobacillus* bacteremia (LB) is rare, evidence aggregating from case reports

has implicated LB in several medical conditions. As such, there is reason to suggest that the presence of these organisms in blood cultures may not be due to spurious contamination, but rather, indicative of clinically meaningful events capable of inducing serious illnesses. The purpose of this study is to characterize the risk factors, clinical significance and outcomes of patients with LB.

Methods: We retrospectively reviewed the medical records of patients presenting to a large urban teaching hospital between January 1, 2017 and December 31, 2018, who were found to have LB. Identified individuals were grouped into two mutually exclusive case categories: true LB cases or non-true cases (i.e., contamination). Individuals with ≥ 1 positive blood and were started on appropriate antibiotics were considered true cases. Those with positive cultures not started on appropriate antibiotics were considered contaminants.

Results: A total of 14 patients were identified during our study period, with majority considered true LB cases [71.4%; $n = 10$]. These 14 individuals were mostly males [64.2%; $n = 9$] and reported no use of Lactobacilli probiotics [78.6%; $n = 11$] or antacids [57.1%; $n = 8$]. On average, true LB cases were older (mean [SD]): 80.1 [± 10.9] vs. 54.0 [± 19.1] years) and required longer hospitalization (38.5 [± 27.6] vs. 8.0 [± 6.2] days) compared to non-LB cases, respectively. Among the 10 true LB cases, the suspected source of infection included gastrointestinal system [50%; $n = 5$], infective endocarditis [10%; $n = 1$], genitourinary system [10%; $n = 1$]; and could not be determined in 3 [30%] cases. Concurrent infection with candida and gastrointestinal microbes were noted in four (40%) of the true LB cases, respectively. Overall, five deaths were observed, with 4 [80%] occurring in true LB cases and one in a non-LB case.

Conclusion: LB should not be dismissed as contaminants particularly in at-risk patients for LB, such as the elderly or immunocompromised individuals.

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298. Multicenter retrospective cohort study of the clinical significance of *Staphylococcus lugdunensis* isolated from a single blood culture set

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Session: P-9. Bacteremia

Background: *Staphylococcus lugdunensis* is a coagulase negative *Staphylococcus* (CoNS) species with the potential to cause aggressive infection. Guidance surrounding *S. lugdunensis* bacteremia (SLB) is lacking, especially in the case of a single positive set of blood cultures.

Methods: We performed a multicenter, retrospective observational cohort review of adult patients with SLB from at least one blood culture set within the University of Maryland Medical System from November 2015-November 2019. Objectives were to (1) describe baseline characteristics, (2) compare available criteria for evaluating clinical significance, and (3) evaluate the clinical outcomes among patients with SLB in 1 vs ≥ 2 positive blood culture sets. Descriptive statistics with Chi-squared and Mann-Whitney U tests were carried out.

Results: There were 5,548 CoNS-positive blood culture sets, 49 (0.88%) with *S. lugdunensis* comprising 36 adult patients (24 with 1 positive set and 12 with ≥ 2 positive sets). Patients with ≥ 2 positive sets were more likely to be on hemodialysis (HD) ($p=0.029$) and to have an HD catheter present ($p=0.10$) (Table 1). Thirty-five of the 36 patients fulfilled at least one of the following: systemic inflammatory response syndrome (SIRS), Souvenir criteria, or clinical criteria (infectious focus on imaging and/or second positive culture site) (Table 2). Twenty-eight (78%) patients were treated with antimicrobial therapy and/or central line removal. SIRS criteria were met more often among patients with 1 positive set ($p=0.05$). Patients with ≥ 2 positive sets were more often treated with antibiotics for longer than 2 weeks ($p=0.02$). The mean time of positive cultures to discharge was 11 days and was longer for patients with only one set of positive blood cultures (13 vs. 6 days), although this difference was not statistically significant ($p=0.29$) (Table 3).

Table 1. Baseline characteristics

	Total (N=36)	Single set + (N=24)	≥ 2 set + (N=12)	p-value
Female	14 (39)	7 (29)	7 (58)	0.15
Age (median, IQR) ^a	57.5 (25.3)	58 (28)	59 (18)	0.98
BMI ^b >24	25 (69)	15 (63)	10 (83)	0.27
Comorbidities				
Diabetes Mellitus	15 (42)	9 (38)	6 (50)	0.50
Hypertension	18 (50)	13 (54)	5 (42)	0.73
Hemodialysis	7 (19)	2 (8)	5 (42)	0.029*
Malignancy	7 (19)	4 (17)	3 (25)	0.66
Polymicrobial blood cultures	19 (53)	14 (58)	5 (42)	0.48
Indwelling prosthetic material	14 (39)	7 (29)	7 (58)	0.15
Joint	4 (11)	3 (13)	1 (8)	1.0
AICD/PM ^c	4 (11)	3 (13)	1 (8)	1.0
HD catheter ^d	4 (11)	1 (4)	3 (25)	0.10*
Endovascular	2 (6)	0	2 (17)	0.11

P values were calculated using the Fisher Exact Test for categorical variables and the Mann-Whitney U test for continuous variables.
 * significant at $p \leq 0.10$
^a Interquartile range
^b Body mass index
^c Automatic implantable cardioverter defibrillator/pacemaker
^d Hemodialysis