Results. 1289 ITT patients were randomized (LEF, n = 646; MOX, n = 643). Most patients in both groups achieved ECR at Day 3, with further increases through Day 7 and sustained efficacy through LFU (Fig 1). In mITT patients, IACR success rates at EOT/TOC/LFU were 87.1/85.0/83.2% with LEF and 88.1/87.1/86.1% with MOX; results were consistent in CE patients. The proportions of ITT patients with resolution of all baseline signs/symptoms of CABP increased similarly by visit in both treatment groups (Fig 2). Most patients did not achieve complete sign/symptom resolution until TOC, with fever generally being the first and cough the last to resolve. There was no apparent relationship between ECR and age, gender, renal status, SIRS, PORT, prior antibiotic use, baseline pathogens, typical/atypical pathogens, or mono/polymicrobial pathogens. The high percentage of patients at LFU with baseline symptom resolution suggests that symptom resolution was sustained.

Conclusion. In this pooled analysis, efficacy results were similar by visit in the LEF and MOX groups, with high ECR rates maintained through LFU. LEF will provide a potential new effective systemic monotherapy alternative to fluoroquinolones for the empiric treatment of CABP.

Figure 1. ECR Rates by Visit (ITT Population)

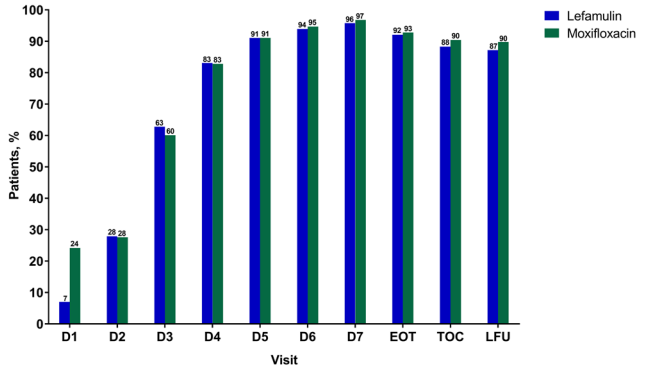
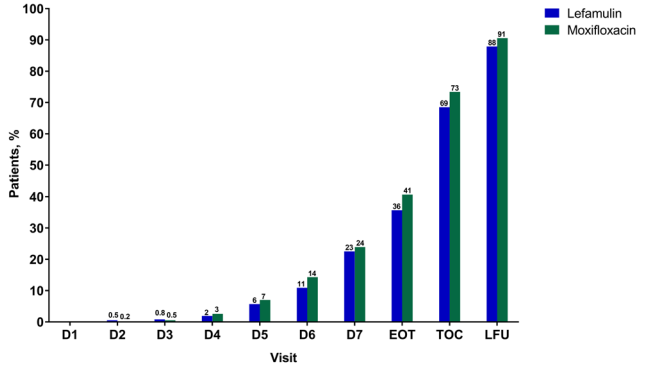


Figure 2. Patients With Resolution of All Baseline Signs/Symptoms of CABP by Visit (ITT Population)



*Includes cough, dyspnea, purulent sputum production, and chest pain.

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2234. Outcomes by Age and Gender from a Global Phase 3 Study of Delafloxacin (DLX) in Community-Acquired Bacterial Pneumonia (CABP)

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Background. Delafloxacin (DLX) is a fluoroquinolone, approved in the United States for treatment of ABSSSI. DLX has no preclinical signals for QT prolongation and has no QT prolongation in a validated challenge study. Risk of QT prolongation is a consideration in antibiotic selection for elderly hospitalized CABP patients. A Phase 3 CABP trial with DLX was analyzed with a focus on age and gender.

Methods. Data on age and gender were reviewed from a multicenter, randomized, double-blind trial of adults with CABP. Patients were randomized 1:1 to DLX or moxifloxacin (MOX) treatment for 5–10 days. Patients received a minimum of 3 days of IV treatment, then were switched to oral at MD discretion. A key clinical endpoint was the investigator-assessment at Test of Cure (TOC) 5–10 days after the end of treatment. Clinical success was defined as complete or near resolution of signs and symptoms and no further antibiotics needed

Results. In the overall study, 859 patients were randomized with a mean age of 60 years (55.5% <65, 44.5% ≥65, 21.2% ≥75; range 18–93); 58.7% were male; 25.4% and 1.4% were PORT class IV and V; 28.6% multi-lobar pneumonia. Table shows the comparison of DLX and MOX clinical response at TOC in the Intent to Treat (ITT) population. Overall, DLX was well tolerated, with similar related adverse events (AE) between treatment groups regardless of age (< 65: 16.7% DLX, 13.3% MOX; ≥ 65: 13.4% DLX, 11.7% MOX) or gender (male: 16.0% DLX, 11.1% MOX; female 14.0% DLX, 14.9% MOX). The most common treatment-related AEs for DLX were diarrhea and transaminase elevations which were mild-to-moderate and did not routinely lead to discontinuation. There were no reports of potential QT prolongation on DLX.

Conclusion. Based on age and gender, DLX had comparable outcomes to MOX in clinical success at TOC. DLX was also well tolerated regardless of age or gender. DLX may offer a promising alternative in the treatment of CABP including elderly patients.

Clinical Success @ TOC (ITT)				
	Subgroup	DLX IV/ PO % (n/N)	MOX IV/PO % (n/N)	Delta D-M (95% CI)
Age % (n/N)	<65	91.7 (209/228)	88.8 (221/249)	2.9 (-2.5, 8.4)
	≥65	89.2 (181/203)	91.1 (163/179)	-1.9 (-8.0, 4.3)
	≥75	90.6 (77/85)	89.7 (87/97)	0.9 (-8.5, 9.9)
Gender % (n/N)	Male	88.8 (223/251)	88.9 (225/253)	-0.1 (-5.7, 5.5)
	Female	92.8 (167/180)	90.9 (159/175)	1.9 (-3.9, 8.0)

Disclosures. **All authors:** No reported disclosures.

2235. Fecal Biomarkers for *Clostridioides difficile* Infection in Cancer Patients

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Background. The diagnosis of *C. difficile* infection (CDI) relies on using a nucleic acid amplification test (NAAT) followed by confirmatory toxin enzyme immunoassay (EIA). This study examined the utility of fecal biomarkers and *C. difficile* bacterial quantity (BQ) in differentiating patients with true infection (NAAT+/EIA+) from patients with colonization (NAAT+/EIA-) in the context of *C. difficile* ribotypes.

Methods. We studied 136 patients with diarrhea and CDI identified by NAAT in stools for which a confirmatory toxin A, B, EIA was performed. Fecal IL-8, IL-1β, calprotectin, and lactoferrin were studied by ELISA. *C. difficile* BQ was determined by 16S rRNA qPCR. Data were stratified according to cancer diagnosis into three groups [hematologic (H) n = 43, solid tumor (ST) n = 62, or stem cell transplant (SCT) n = 31].

Results. Stools were EIA+ in 36/136 (26%) of the cohort. Although ST patients had a higher Charlson co-morbidity index when compared with the other two groups (P < 0.002), demographic characteristics and symptoms at the time of presentation were similar between groups regardless of EIA status. Most common ribotypes identified included F106 and F014-020. Ribotype distribution differed according to oncologic diagnosis as determined by the Shannon diversity index. There were fewer distinct *C. difficile* ribotypes in the SCT (n = 8) vs. ST (n = 15) and H (n = 15) groups (P < 0.001 and P < 0.002, respectively). BQ were higher in EIA+ than EIA- across all strata (log of BQ/mg 2.38 ± 1.49 vs. 0.92 ± 1.28, P > 0.001). Similarly, higher levels of fecal IL-8 (1.72 ± 1.9 vs. 0.83 ± 1.6 ng/mL), IL-1β (3.74 ± 13.7 vs.. 1.21 ± 4.6) and calprotectin (14.9 ± 27 vs. 6 ±1.8 ug/mL) levels were seen in EIA+ patients. While IL-8, IL-1β, and calprotectin were increased in EIA+ ST and H, no differences were seen in the SCT group. A sensitivity analysis using ROC curves, revealed that BQ resulted in a greater area under the curve than fecal markers of inflammation (A = 0.77, P < 0.001, 95% CI [0.67–0.86]).

Conclusion. In this study in cancer and immunocompromised patients, *C. difficile* bacterial burden regardless of infecting ribotype and fecal cytokines showed to be a helpful assay in distinguishing true CDI from colonization.

Table 1: Clinical presentation by Oncological Diagnosis Group

	Hematological	Solid Tumor	SCT	P value
Total N= 136	43	62	31	
Risk Factors for Diarrhea				
Inpatient	42(98)	61(98)	31(100)	1.000
Community Associated	2(5)	11(18)	2(7)	**0.011**
Healthcare Facility Associated (within 12 wks post discharge)	6(14)	7(11)	7(23)	
Healthcare Facility Associated (within 4 wks post discharge)	18(42)	21(34)	3(10)	
Healthcare Facility Onset (>48hr post admission)	17(40)	23(37)	19(61)	
International travel	1(2)	0	1(3)	0.696
Antibiotic use	41(95)	51(82)	30(97)	**0.042**
Immunosuppression	32(74)	29(47)	28(90)	**>0.001**
Chemotherapy	36(84)	30(48)	27(87)	**>0.001**
Clinical Presentation				
Charlsons's Comorbidity Index Median (Range)	5(1-14)	6(2-16)	5(1-16)	KW= **0.002** *(H vs S)=0.012 (H vs SCT)=0.327 (S vs SCT)=0.001*
Zar's score Median (Range)	1(0-4)	1(0-3)	1(0-4)	KW= 0.636
Duration of symptoms prior to CDI (days) Median (Range)	1.5(1-14)	2(1-21)	1.5(1-21)	KW= 0.170

Figure 1: Ribotype Distribution by Clinical Diagnosis

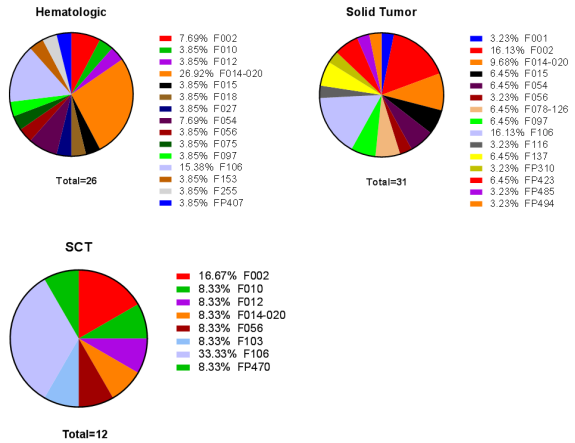


Table 2: Discrimination Indices Between Clinical Groups

Group	No. of Types	Largest Type	Size (%) of the Largest Type	Simpson Diversity Index	Shannon Diversity Index
Hematologic	15	F014-020	27%	0.911	2.41
Solid Tumor	15	F106	16%	0.938	2.54
		F002	16%		
Stem Cell Transplant	8	F106	33%	0.894	1.91
Total	25	F106	19%	0.919	

(H vs S) t=0.904, p=0.372; (H vs SCT) t=3.30, p=0.002; (S vs SCT) t=5.88, p>0.001

Figure 2A: Fecal Biomarkers

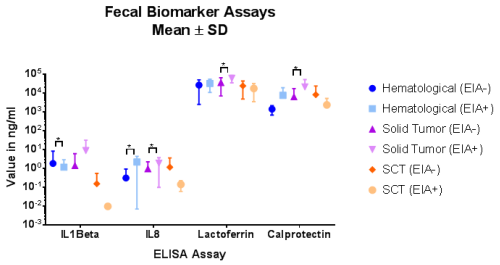
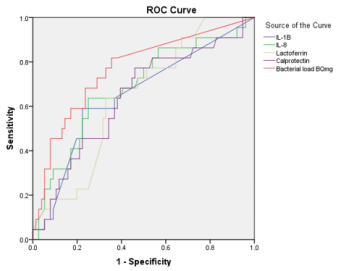


Figure 2B: ROC curves - Fecal Biomarkers and Fecal Bacterial Loads



Disclosures. **All authors:** No reported disclosures.

2236. Stool-Derived Inflammatory Mediators Serve as Biomarkers of Severity in *Clostridium difficile* Infection

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Background. *Clostridium difficile* infection (CDI) is a major public health concern and frequently results in severe disease, including death. Predicting subsequent complications early in the course can help optimize treatments and improve outcomes. However, models based on clinical criteria alone are not accurate and/or do not validate. We hypothesized that inflammatory mediators from the stool would be biomarkers for severity and complications.

Methods. Subjects were included after testing positive for toxigenic *C. difficile* by the clinical microbiology laboratory via enzyme immunoassay (EIA) for glutamate dehydrogenase and toxins A/B, with reflex to *tcdB* gene PCR for discordants. Stool was thawed on ice, diluted 1:1 with PBS and protease inhibitor, centrifuged, and the supernatant was analyzed by a custom antibody-linked bead array with 17 inflammatory mediators. Measurements were normalized and log-transformed. IDSA severity was defined by serum white blood cell count > 15000 cells/μL or creatinine 1.5-fold above baseline. Primary 30-day outcomes were all-cause mortality and attributable disease-related complications (DRC): ICU admission, colectomy, and/or death. Analyses included principal components, permutational multivariate ANOVA (PERMANOVA), and logistic regression ± L1 regularization and 5-fold cross validation. The area under the receiver operator characteristic curve (AuROC) was computed.

Results. We included 225 subjects, with 124 females (55.1%), average age 58.5 (±17), and more PCR+ than toxin EIA+ (170 vs. 55, respectively). IDSA severity, death, and DRCs occurred in 79 (35.1%), 14 (6.2%), and 12 (5.3%) subjects, respectively. PCA and PERMANOVA showed IDSA severity ($P = 0.009$) but not death or DRCs associated with the panel (figure). Several inflammatory mediators associated with IDSA severity and death (table). Machine learning models had AuROCs of 0.77 (IDSA severity), 0.84 (death), and 0.7 (DRCs).

Conclusion. We found that specific inflammatory mediators from the stool of patients with CDI associate with severity and complications. These results are promising, but need replication in a larger dataset and should be incorporated into models that include clinical covariates prior to deployment.