0.74 (95% confidence interval [CI]: 0.66 - 0.82). The cut-point was 2. A score ≥2 had a sensitivity of 87% (95%CI: 0.743 - 0.952), a specificity of 37% (95%CI: 0.308 - 0.445), a positive predictive value of 24%, and a negative predictive value of 93%, respectively.

Conclusion. We developed the score to help clinicians rule out IE in BHS bacteremia. Further research is warranted for validation.

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

695. Antipseudomonal Versus Narrow-spectrum Agents for the Treatment of Community-onset Intra-abdominal Infections

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Session: P-33. Enteric Infection

Background. Antipseudomonal antibiotic regiments are often used to treat community-acquired intra-abdominal infections (CA-IAI) despite common causative pathogens being susceptible to more narrow-spectrum agents. The purpose of this study was to compare post-infection complications in adult patients treated for CA-IAI with antipseudomonal or narrow-spectrum regimens

Methods. This retrospective cohort study included patients ≥18 years admitted for CA-IAI treated with antibiotics between January 1, 2013, and December 31, 2019. Patients who had bacteremia or peritonitis were excluded. The primary objective of this study was to compare post-infection complications within 90 days between patients treated empirically with antipseudomonal versus narrow-spectrum regimens. Post-infection complication was defined as post-operative infection, recurrence of diverticulitis, or mortality. Secondary objectives were to compare infection and treatment characteristics along with patient outcomes. Sub-group analyses were planned to compare outcomes of patients with low-risk and high-risk CA-IAI and patients who required surgical intervention versus who were medically managed

Results. A total of 350 patients were included: Antipseudomonal, n=204; Narrow-spectrum, n=146. There were no differences in 90-day post-infection complications between groups (Antipseudomonal 15.1% vs Narrow-spectrum 11.3%, p=0.296). Additionally, no differences were observed in hospital LOS, 90-day readmission, *C. difficile*, or mortality. Patients treated with Antipseudomonal regimens received longer durations of therapy (median 11 days [IQR 8-14] vs 9 days [IQR 5-12], p< 0.001). No differences were observed in 90-day post-infection complications for patient with low-risk (Antipseudomonal 15% vs Narrow-spectrum 9.6%, p=0.154) or high-risk CA-IAI (Antipseudomonal 15.8% vs Narrow-spectrum 22.2%, p=0.588), or those who were surgically (Antipseudomonal 8.5% vs Narrow-spectrum 9.2%, p=0.877) or medically managed (Antipseudomonal 17.5% vs Narrow-spectrum 13.1%, p=0.463).

Conclusion. Post-infection complication rates were similar among patients treated with antipseudomonal and narrow-spectrum antibiotics. Antipseudomonal therapy is likely unnecessary for most patients with CA-IAI

Disclosures. **Lisa E. Dumkow, PharmD, BCIDP**, Nothing to disclose

696. Optimal Duration of Prophylactic Antibiotics in Patients with Cirrhosis and Upper Gastrointestinal Bleeding

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Session: P-33. Enteric Infection

Background. Spontaneous bacterial peritonitis (SBP) is a serious complication of variceal hemorrhage. Guidelines recommend a maximum of seven days of antibiotics after variceal hemorrhage to prevent SBP and reduce rates of rebleeding and mortality. However, studies supporting these guidelines used varied durations of therapy including those with less than seven days. The objective of this study was to determine if less than seven days of antibiotic prophylaxis was noninferior to seven or more days in patients with cirrhosis and variceal hemorrhage.

Methods. This was a single-center, retrospective cohort conducted from August 2019 to August 2020 including adult patients who received treatment for variceal hemorrhage and antibiotics for prevention of SBP during hospitalization. Patients were excluded if they were diagnosed with non-variceal hemorrhage, received treatment with antibiotics within 72 hours prior to the variceal hemorrhage, or expired or transitioned to end of life care within 48 hours of hospital admission. The primary outcome was in-hospital mortality. Secondary outcomes included SBP within the first 30 days after variceal hemorrhage, 30-day mortality, 30-day readmission rate, incidence of rebleeding at seven and 30 days, incidence of *Clostridioides difficile* infection, and intensive care unit and hospital length of stay.

Results. 64 patients were included with 45 patients in the less than seven days group and 19 patients in the seven or more days of antibiotic prophylaxis group. In each group, patients were primarily male with a median age of approximately 60 years. There was no difference in the primary outcome of in-hospital mortality between the less than seven days group as compared to the seven or more days group (22.2% vs 0%, p=1). No difference was identified between the less than seven days group as compared to the seven or more days group for any of the secondary outcomes.

Conclusion. This study identified no difference in patient-centered outcomes when comparing less than seven days of prophylactic antibiotics to seven or more days in patients with variceal hemorrhage. Less than seven days of prophylactic antibiotics may be a reasonable duration for prevention of SBP.

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697. Outcomes of Tigecycline Use for *Clostridioides difficile* Infection: A Case Series of 28 Patients

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Session: P-33. Enteric Infection

Background. *Clostridioides difficile* infection remains a highly morbid or lethal condition in an unacceptably large proportion of patients. To date, there are limited and conflicting data to support the use of tigecycline for *C. difficile* infection and the optimal stratification approach, timing (i.e., initial vs. salvage therapy), and duration are unclear.

Methods. We describe in detail a retrospective cohort of 28 *C. difficile* inpatients treated with tigecycline at UVA Medical Center. We stratify each patient by the Infectious Diseases Society of America's guidelines on severity of infection and detail the timing and duration of tigecycline therapy in each case. We further characterize the effect of tigecycline on 90-day mortality and recurrence.

Results. 9/28 (32.1%) patients were treated with tigecycline for fulminant (presence of hypotension, shock, ileus, or megacolon), and 12/28 (42.9%) for severe (white blood cell count over $15x10^9$/L or creatinine over 1.5mg/dL) *C. difficile* infection. Tigecycline was used in all cases in combination with oral vancomycin +/- metronidazole. The average duration of therapy was 7.6 days, with tigecycline as initial therapy (use within the first 72 hours of the start of directed antimicrobial therapy) in 7/28 (25%) cases. 90-day mortality occurred in 10/26 (35.7%) patients (two did not reach 90-day follow-up), all 10 of which were in-hospital mortalities and 5/10 (50%) occurred in patients with fulminant infection. 7 of the 16 (43.8%) surviving patients that reached 90-day follow-up had recurrent *C. difficile* infection.

Conclusion. Patients selected for treatment with tigecycline for *C. difficile* infection suffered a high rate of in-hospital mortality, especially among the significant proportion with fulminant disease. The rate of recurrent infection was substantial, contrary to some reports of reduced recurrence with tigecycline from the literature. The outcomes of tigecycline (as adjunct or monotherapy) for treatment of severe/fulminant and refractory infection versus standard treatments warrant further retrospective analysis and the benefit of tigecycline in these settings remains to be proven in well-controlled clinical trials.

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698. Contemporary Clinical Epidemiology of Pediatric *Shigella* and *Campylobacter* Infections in Houston, TX, 2019 and 2020.

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Session: P-33. Enteric Infection

Background. Infections due to Gram-negative, diarrheal pathogens are a significant cause of morbidity in children. Clinical features of pediatric *Shigella* and *Campylobacter* infections in urban cities in the United States are not well described.

Methods. We used a retrospective chart review of records (0-18 years of age) from a network of hospitals in Houston, TX. Only patients with *Shigella* spp. or *Campylobacter* spp. isolated from clinical samples in 2019 and 2020 were included. Demographic, clinical, and microbiological data were extracted from the medical record.

Results. We identified a total of 59 and 16 pediatric patients with *Shigella* spp. and *Campylobacter* spp. infections, respectively. Hospital admission occurred in 27.1% (16/59) of *Shigella* and 25% (4/16) of *Campylobacter.* Length of stay ranged between 1 and 2 days for both pathogens (Table 1). Of cases with available clinical data, *Shigella* infections were more likely to report fever during their illness compared to *Campylobacter* (80% versus 45.4%) (Table 2). Seizures were observed in 4 *Shigella* infected patients. No episodes of *Shigella* or *Campylobacter* bacteremia were identified. Among patients with an identified exposure, daycare attendance and contact with individuals experiencing similar symptoms were most common (Table 2). The vast majority of *Shigella* species were *S. sonnei* (96.6%) and all *Campylobacter* were *C. jejuni* (Table 3). Resistance to trimethoprim-sulfamethoxazole (TMP-SMX) was common (40/55, 72.7%) among *Shigella* isolates tested. No resistance to fluoroquinolones or third generation cephalosporins in any of the *Shigella* spp. isolates was observed. Susceptibility testing was not performed in *Campylobacter* due to lack of isolates. The most frequent antibiotic used was azithromycin (in 73.3% and 75% of patients with *Shigella* and *Campylobacter,* respectively). Major complications included urinary tract infection (n=1), rectal prolapse (n=1) and splenomegaly (n=1).

Table 1. Characteristics of pediatric patients with *Shigella* and *Campylobacter* infections

Characteristic	*Shigella* (%, IQR)[1]	*Campylobacter* (%, IQR)
Total	59	16
Median age	5 (IQR, 3.5-6)	7 (IQR, 2-14.2)
Gender		
Male	26 (44.1)	11 (68.7)
Female	33 (55.9)	5 (31.3)
Race		
African American/Black	15 (25.4)	0 (0)
Caucasian/White	11 (18.6)	6 (37.5)
Other/Unknown	33 (55.9)	10 (62.5)
Ethnicity		
Hispanic	14 (23.7)	4 (25.0)
Non-Hispanic	31 (52.5)	6 (37.5)
Unknown	14 (23.7)	6 (37.5)
Hospital admission	16 (27.1)	4 (25.0)
Median LOS	1 (IQR, 1-2)	1.5 (IQR, 0.75-2.2)
Outpatient	43 (72.9)	12 (75.0)

[1] Numbers in parentheses indicate percentage (%) except were indicated as interquartile range (IQR)

Table 2. Clinical features of pediatric patients with *Shigella* and *Campylobacter* infections

Characteristic[1]	*Shigella* (n=50)	*Campylobacter* (n=11)
Symptom		
Fever	40 (80)	5 (45.4)
Diarrhea (bloody)	29 (58)	5 (45.4)
Abdominal pain	33 (66)	8 (72.7)
Seizure	4 (8)	0 (0)
Exposure		
None	30 (60)	7 (63.6)
Daycare	5 (10)	0 (0)
Symptomatic[2] (unconfirmed)	9 (18)	2 (18.2)
Symptomatic (confirmed)	1 (2)	0 (0)
Pet/animal	0 (0)	1 (9.1)
Food	0 (0)	1 (9.1)
Travel	1 (2)	0(0)
Antibiotic category (definitive)	15 (30)	4 (36.3)
Macrolide	11 (73.3)	3 (75)
Penicillin	1 (6.7)	0 (0)
Cephalosporin	3 (20)	1 (25)
Complications[3]	1 (2)	2 (18.2)

[1] Clinical information not available for *Shigella* (n=9) and *Campylobacter* (n=5) infections.

[2] Unconfirmed indicates exposure to individual with symptoms (e.g. diarrhea) but unknown etiology. Single exposure to individual with known *Shigella* infection (confirmed).

[3] Complications included urinary tract infections (n=1), rectal prolapse (n=1) and splenomegaly (n=1)

Table 3. Microbiological features of pediatric *Shigella* and *Campylobacter* infections

Characteristic	*Shigella* (n=59)	*Campylobacter* (n=16)
Species	*S. sonnei*: 57 (96.6) *S. flexneri*: 2 (3.4)	*C. jejuni*: 16 (100)
Source		
Stool	55 (93.2)	16 (100)
Urine	4 (6.8)	0 (0)
Resistance[1]		
Ampicillin (n=31)	4 (12.9)	(Not tested)
TMP-SMX (n=55)	40 (72.7)	

[1] Number of *Shigella* isolates tested indicated in parentheses.

Conclusion. Infections due to *Shigella* and *Campylobacter* were a significant burden among pediatric patients between 2019 and 2020 in Houston, TX. The observed high frequency of resistance to TMP-SMX and emergence of multi-drug resistant *Shigella* in other countries warrants continued surveillance.

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699. Case-Case Comparison of Exposures among Fluoroquinolone-Resistant and Pan-Susceptible *Campylobacter* Cases, Tennessee, 2016-2018

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Session: P-33. Enteric Infection

Background. *Campylobacter* causes an estimated 1.5 million infections each year in the United States. Of those, approximately 448,400 infections are caused by antimicrobial resistant strains, including strains resistant to fluoroquinolones (e.g., nalidixic acid and ciprofloxacin), which are commonly used to treat campylobacteriosis. *Campylobacter* infection is commonly attributed to consuming poultry products. We compared exposure data between fluoroquinolone-resistant and pan-susceptible *Campylobacter* cases reported in 2016-2018 to assess attribution.

Methods. Broth microdilution was performed on *Campylobacter* isolates at CDC to determine the minimum inhibitory concentration for nine antimicrobial drugs. Whole genome sequencing (WGS) was performed at the Tennessee (TN) State Public Health Laboratory and the sequence data were analyzed at CDC to determine the genetic resistance determinants. Exposure data was collected through routine case interviews. Exposures among cases with fluoroquinolone-resistant infection and cases with no resistance to antimicrobials were compared.

Results. A total of 606 *Campylobacter* isolates from TN were submitted to CDC NARMS. Of those, 123 (20%) isolates were resistant to fluoroquinolones and 304 (50%) isolates were pan-susceptible. The gyr A (86) resistance gene was detected in 46/54 (85%) of resistant isolates. Exposure data were available for 59 (48%) fluoroquinolone-resistant cases and 186 (61%) pan-susceptible cases. Consumption of chicken (OR 2.1, p-value 0.03) and handling raw seafood (OR 3.1, p-value 0.03) were significantly associated with fluoroquinolone-resistance. More fluoroquinolone-resistant cases reported international travel compared to pan-susceptible cases (15% versus 4%) with OR 4.6, and p-value 0.004.

Conclusion. Fluoroquinolone-resistant *Campylobacter* infections were acquired domestically and internationally. Exposure to chicken products and handling raw seafood were reported more often among fluoroquinolone-resistant cases. Whole genome sequencing of *Campylobacter* isolates provides predicted resistance data. Coupling predicted resistance data with exposure data facilitates better understanding of source attribution of different strains.

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700. Risk Factors and Molecular Epidemiology of Acute and Chronic Norovirus Infection at a Large Tertiary Care Cancer Center

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Session: P-33. Enteric Infection

Background. Norovirus (NoV) is the leading cause of viral diarrhea in patients with cancer. In this study, we describe risk factors associated with acute and chronic NoV infection in this patient population.

Methods. We identified 132 patients with NoV diarrhea (using stool RT PCR) between 2016-2020 at University of Texas MD Anderson Cancer Center (MDACC). Patient data, including demographics, clinical characteristics, NoV treatments, and complications were retrospectively extracted from charts. Stool samples were analyzed for NoV genogroups and genotypes. We compared characteristics and outcomes of patients with acute diarrhea (< 14day; AD) versus chronic diarrhea (>14day or recurrences within 12 weeks; CD) and analyzed the data using Pearson Chi square or Fisher's exact for categorical variables and Wilcoxon rank-sum test for continuous variables.

Table 1 – Patient Demographics.

Characteristic	Acute diarrhea (n=97)	Chronic diarrhea (n=35)	Total (n=132)	p-value
Age at diagnosis in years, median (range)	58 (3-91)	59 (7-91)	59 (3-91)	0.820
Gender				0.350
Male	41 (42)	18 (51)	59 (45)	
Female	56 (58)	17 (49)	73 (55)	
Race				0.281
White	64 (66)	21 (60)	85 (65)	
African American	13 (13)	2 (6)	15 (11)	
Asian	5 (5)	2 (6)	7 (5)	
Other	15 (16)	10 (28)	25 (19)	
Ethnicity				0.780
Non-Hispanic	82 (85)	28 (80)	110 (83)	
Hispanic	12 (12)	6 (17)	18 (14)	
Other	3 (3)	1 (3)	4 (3)	

Results. Of 132 patients identified, 124 had an underlying cancer (39 solid tumor, 85 hematological malignancies, Table 1). On univariate analysis, CD patients were more likely to have a hematological malignancy (p=0.002), be a hematopoietic stem cell recipient (p= 0.013), have a history of gastrointestinal graft versus host disease (p= 0.011), or have received immunosuppressants or steroids in the 90 days before diarrhea onset (p=0.001, Table 2). CD patients had significantly lower white blood cell counts (p=0.038), absolute neutrophil counts (p=0.049), IgG levels (p= 0.001), and serum albumin levels (p=0.002) at the time of NoV diagnosis (Table 3). Patients with CD more often received symptomatic or NoV targeting treatment, including anti-diarrheal (p=0.005), nitazoxanide (p< 0.001), intravenous immune globulin (p=0.017), and oral IgG (p=0.042). CD patients more often had diarrheal recurrence in the first 4 weeks (p=0.001) or the second month (p< 0.001) after initial diagnosis and needed enteral or parenteral nutrition (p=0.004). We genotyped NoV in 67 patients (Figure 1), resulting in identification of the following genogroups: GI (n=9, 13%), GII.4 (n=23, 34%), and other types of GII (n=35, 52%). Genotype diversity was higher in patients with CD than AD (Figure 1).

Table 2 – Characteristics of Underlying Malignancy.

Characteristic	Acute diarrhea (n=97)	Chronic diarrhea (n=35)	Total (n=132)	p-value
Oncologic diagnosis				0.002
No cancer	8 (8)	0 (0)	8 (6)	
Solid	35 (36)	4 (12)	39 (30)	
AML	7 (7)	10 (29)	17 (13)	
CML	2 (2)	1 (3)	3 (2)	
CLL	4 (4)	4 (12)	8 (6)	
ALL	10 (10)	5 (14)	15 (11)	
Lymphoma	14 (15)	4 (12)	18 (14)	
Myeloma	14 (15)	3 (9)	17 (13)	
Other Heme	3 (3)	4 (12)	7 (5)	
Type of cancer				
No cancer	8 (8)	0 (0)	8 (6)	0.002
Solid	35 (36)	4 (12)	39 (30)	
Hematological	54 (56)	31 (88)	85 (64)	
Cancer status				0.188
Not in remission	69 (71)	25 (71)	94 (71)	
In remission	9 (9)	2 (6)	11 (9)	
Remission after HCT or CAR-T	12 (13)	8 (23)	20 (15)	
Not applicable	7 (7)	0 (0)	7 (5)	
Cancer therapy within 90 days	70 (72)	29 (83)	99 (75)	0.210
Conventional chemotherapy within 90 days	34 (35)	14 (40)	48 (36)	0.602
Prior HCT	25 (26)[4]	17 (49)	42 (32)	0.013
HCT type				0.013
Autologous	14/25 (56)	3/17 (18)	17/42 (40)	
Allogenic	11/25 (44)	14/17(82)	25/42 (60)	
GVHD (any)	8/25 (32)	10/17 (59)	18/42 (43)	0.085
Gastrointestinal GVHD	4/25 (16)	9/17 (53)	13/42 (31)	0.011
Check point inhibitor within 90 days	6 (6)	2 (6)	8 (6)	> 0.99
Any previous checkpoint inhibitor	11 (11)	3 (9)	14 (11)	0.760
CAR-T recipient	6 (6)	3 (9)	9 (7)	0.699
Steroids or other immunosuppressants within 90 days	35 (36)	24 (69)	59 (45)	0.001
Anti-CD20 within 6 months	11 (11)	5 (14)	16 (12)	0.763
Antibiotics within 90 days	70 (72)	24 (69)	94 (71)	0.687

[4] *The numbers contributing to the results are the overall number unless otherwise noted (e.g., with a denominator)*

Abbreviations – AML, acute myelogenous leukemia; CML, chronic myelogenous leukemia; CLL, chronic lymphocytic leukemia; ALL, acute lymphocytic leukemia; HCT, hematopoietic cell transplantation; CAR-T, chimeric antigen receptor T cell; MUD, matched unrelated donor; MRD, matched related donor; GVHD, graft-versus-host disease.