1124. Effects of Co-infection on the Severity, Response to Treatment and Duration of Hospital Stay in Patients with Clostridium difficile Infection
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Background. According to the multicenter evaluation of the FilmArray® multiplex gastrointestinal (GI) panel for etiologic diagnosis of infectious gastroenteritis, the GI panel detected at least one potential pathogen in 53.5% of the stool specimens that were collected. Out of the positive samples, 31.5% tested positive for more than one potential pathogen. The samples that were co-infected showed that Clostridium difficile infection (CDI) was present in 53.4% of them. This lead to the idea of our project to determine whether the presence of another GI infection affects CDI outcomes in terms of severity, treatment escalation, duration of hospital stay and recurrence.

Methods. Inclusion criteria: 18-year-old and above patients. Exclusion criteria are GI panel performed on outpatient basis, presence of any co-founder that had independent effect on the outcomes such as end-stage renal disease, cirrhosis, presence of non-GI infection (pneumonia, urinary tract infection, osteomyelitis etc.), and recurrent CDI. Out of the 2,576 GI panels performed from January 1, 2015 until December 31, 2016 only 235 patients were selected for retrospective chart review based on the above criteria. Out of 235 patients, 38 patients had co-infection (CDI + another GI infection = Group A) and reminder had only CDI (Group B). Chi-square test, Fisher’s exact test (for severity, treatment escalation and recurrence) and Independent t-test (for duration of hospital stay) were used to compare Group A with Group B. Alpha criterion was 0.05.

Results. The P-values for each outcome are given below: (a) 0.16 for severity according to definition of American College of Gastroenterology; (b) 0.77 for severity according to definition of Infectious Disease Society of America, (c) 0.43 for time to treatment escalation; (d) 0.41 for duration of hospital stay; (e) 0.49 for CDI recurrence.

Conclusion. All the resulted P-values are greater than 0.05. These results are suggestive of the fact that presence of another GI infection does not affect the outcomes for CDI in terms of severity, treatment escalation, duration of hospital stay and recurrence. As there were only 38 patients in co-infection group, it limits the ability to determine the effect of individual infectious agent on the outcomes of CDI.

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1125. Reduced Time to Pathogen Identification and Antibiotic Prescription Using Multiplex Molecular Testing for Gastrointestinal Infections
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Background. A variety of microbial pathogens causes diarrhea which remains a significant global concern. The ability to rapidly identify the pathogen impacts the decision of antimicrobial stewardship, safety, day 8 at which time all patients were neutropenic. The patients developed fevers, abdominal pain, and diarrhea within 36 hours of starting midostaurin and had abdominal CT findings consistent with neutropenic enterocolitis. For two patients, midostaurin was discontinued and symptoms improved upon discontinuation. One patient completed the course of midostaurin with symptom resolution after its completion. Of note, all were started on appropriate prophylactic antibiotics at chemotherapy initiation and were started on broad-spectrum antibiotics at onset of fevers and abdominal symptoms. Appropriate evaluation was also done for each patient to rule out other causes of diarrhea other than Clostridium difficile infection.

Conclusion. These cases are significant because they illustrate individuals treated with standard induction chemotherapy for AML and started on midostaurin while neutropenic who began reporting symptoms of neutropenic enterocolitis within 36 hours of receiving midostaurin. This shows a possible increased toxicity when midostaurin is given after induction chemotherapy in the setting of neutropenia. Stone et al. showed increased intestinal symptoms with midostaurin, but no cases of neutropenic enterocolitis have been reported. With increased midostaurin use in the past year, further studies are warranted to establish and raise awareness of a possible direct association between midostaurin and gastrointestinal toxicity.

Disclosures. All authors: No reported disclosures.

1126. Three Cases of Neutropenic Enterocolitis Following Midostaurin Administration
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Background. Neutropenic enterocolitis is a life-threatening inflammation of the colon with a mortality rate above 50% primarily seen in neutropenic patients on cytotoxic chemotherapy. The following cases illustrate three patients with this condition following midostaurin administration after standard induction chemotherapy with daunorubicin/idarubicin and cytarabine for acute myeloid leukemia (AML). Midostaurin is a multtargeted FMS-Like Tyrosine kinase 3 (FLT3) receptor inhibitor used in AML treatment after induction chemotherapy.

Methods. Review of records of three patients seen by the infectious disease service.

Results. In these cases, patients were diagnosed with AML with FLT3 mutation. All three were admitted and started on standard induction chemotherapy. Midostaurin was started on day 1 and day 8 at which time all patients were neutropenic. The patients developed fevers, abdominal pain, and diarrhea within 36 hours of starting midostaurin and had abdominal CT findings consistent with neutropenic enterocolitis. For two patients, midostaurin was discontinued and symptoms improved upon discontinuation. One patient completed the course of midostaurin with symptom resolution after its completion. Of note, all were started on appropriate prophylactic antibiotics at chemotherapy initiation and were started on broad-spectrum antibiotics at onset of fevers and abdominal symptoms. Appropriate evaluation was also done for each patient to rule out other causes of diarrhea other than Clostridium difficile infection.

Conclusion. These cases are significant because they illustrate individuals treated with standard induction chemotherapy for AML and started on midostaurin while neutropenic who began reporting symptoms of neutropenic enterocolitis within 36 hours of receiving midostaurin. This shows a possible increased toxicity when midostaurin is given after induction chemotherapy in the setting of neutropenia. Stone et al. showed increased intestinal symptoms with midostaurin, but no cases of neutropenic enterocolitis have been reported. With increased midostaurin use in the past year, further studies are warranted to establish and raise awareness of a possible direct association between midostaurin and gastrointestinal toxicity.

Disclosures. All authors: No reported disclosures.

1127. Genomic Analysis of Biofilm-Forming Enteroinvasive E. coli Emergent Pathogen
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Background. Enteroinvasive Escherichia coli (EIEC) are involved in dysenteric diarrhea among children in low- and middle-income countries. EIEC strains isolated in Colombia, South America were shown to form biofilms and to be invasive in vitro. The O96:H1 serotypes and biofilm formation (BF) are not common phenotypes among EIEC, and the role they may play in diarrhea is at present unknown. The main goal of this study was to identify virulence and BF genes from EIEC genomic data. We hypothesize that EIEC O96:H1 strain 52.1 originated from horizontal transfer of a Shigella-like virulence plasmid into a non-EIEC pathogenic E. coli strain.

Methods. We performed on the BF-EIEC 52.1 strain using NextGen Illumina and PacBio Bioscences (PacBio) platforms. Publically available genomes from other EIEC O96:H19 and Shigella genomes previously published were analyzed using online available software and databases including NCBI, BLAST, Mauve, among others. This analysis was tailored to identify virulence factors from the virulence factor database (VFDB). BLASTN was used to identify genomic coverage of genes encoding the Shigella virulence factors. EIEC and Shigella genomes were analyzed on a multiple genome alignment software (Mauve) to verify results from BLASTs and to determine pseudogenes.

Results. The genome of EIEC O96:H19 strain 52.1 was 5,193,449 bp in size, containing 5,050 coding DNA sequences (CDSs). O96:H19 strain 52.1 carries three plasmids, the invasion plasmid (pINV) contains all type 3 secretion system (TTSS) and TTSS effectors genes previously described for Shigella and EIEC O96:H19 CFSAN029787 Italian strain. Non-TTSS virulence genes were also identified, including: long polar fimbriae gene (lpfA), enterotoxin (senB), and antibiotic resistance genes.

Conclusion. The EIEC O96:H19 strain 52.1 genome carries TTSS genes within a virulence plasmid, protein effector genes, and enterotoxin genes known to be