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Background. *Yersinia enterocolitica* is usually transmitted through ingesting or handling undercooked pork products and is an uncommon cause of diarrhea, mesenteric adenitis and bacteremia in the United States. There is limited information regarding its clinical course in immunosuppressed and cancer patients. We describe the clinical presentation and outcomes of cancer patients diagnosed with *Y. enterocolitica* at a Comprehensive Cancer Center in the United States before and after the use of nucleic acid amplification testing (NAAT) using GI multiplex panel (GIMP).

Methods. We studied all patients with *Y. enterocolitica* isolated from cultures or identified by NAATs. We then obtained demographic information, comorbidities, co-infections, clinical characteristics, treatment and overall mortality at 30 days post diagnosis.

Results. Sixteen cases were identified (Table 1). The most common symptom of *Y. enterocolitica* infection was diarrhea [10/16 (62%)], followed by abdominal pain [8/16 (50%)] and fever [4/16 (25%)]. Ten of the cases were identified by NAAT over a 2-year period, compared with six cases identified prior to April 2016 over 70 years. Stool cultures confirmed *Y. enterocolitica* infection in two cases identified by NAAT (20%). Three patients had co-infection with *Clostridium difficile*, and four patients had a history of *C. difficile* infection. All but one patient was treated, mostly with a fluoroquinolone. Thirty-day mortality was 7.7%. Cause of death was most often a complication of advanced cancer. The one patient who did not receive antibiotics had maxillary sinus squamous cell cancer and had spontaneous resolution of symptoms.

Conclusion. GIMP NAATs have increased the rates of *Y. enterocolitica* identification in patients with cancer, suggesting that this disease was underdiagnosed or is now more common as patients receive increasingly intensive immunosuppression. GIMP NAATs will likely re-define the epidemiology of *Y. enterocolitica* infection in cancer patients. In patients with *Y. enterocolitica* who are at high risk for *C. difficile* relapse and in whom no recent immunosuppression or evidence of systemic illness is present, it may be reasonable to consider observation or shorter course of antibiotics.

Table 1. Characteristics and Outcomes of *Y. enterocolitica* Infection.

Patient Characteristics/Outcomes	*Y. enterocolitica* Infection N = 16
Age (years, mean, standard deviation)	58 ± 15
Gender	
Male n(%)	9 (56)
Female n(%)	7 (44)
Race	
White n (%)	12(75)
Black n(%)	1(6.2)
Asian n(%)	3(19)
Other n(%)	
Ethnicity	
Latino n(%)	4(25)
Underlying Malignancy	
Solid n(%)	9(56)
Hematologic n(%)	7(44)
Stem cell n(%)	5(31)
No malignancy n(%)	0
Clinical Presentation	
Fever n(%)	4(25)
Nausea/vomiting n(%)	3(19)
Abdominal pain n(%)	8(50)
Diarrhea n(%)	10(62)
Bacteremia n(%)	2 (13)
Pseudoappendicitis n(%)	1 (6.2)
C. Difficile	
Co-infection n(%)	3(19)
Previous Infection n(%)	4(25)
Imaging Studies	
Colitis n(%)	2 (13)
Adenitis n(%)	1 (6.2)
Date of diagnosis	
1941-04/2016	6
04/2016-04/2018	10
Treatment used	
None	1(6.3)
Tetracycline	1(6.3)
Sulfa	1 (6.3)
Fluoroquinolone	7 ((44)
Carbapenem	1 (6.3)
Cephalosporin	4 (25)
Penicillin	2 (13)
30 day mortality (%)	7.7%

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

1540. Left Ventricular Assist Device Driveline Infections: Relapsed Infections and Minimum Inhibitory Concentration Changes

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Background. Treatment of left ventricular assist device (LVAD) driveline infections (DLIs) pose difficulties given the permanent nature of the LVAD. Few studies have examined the minimum inhibitory concentration (MIC) changes over time or resistance patterns of implicated pathogens causing recurrent infections.

Methods. This retrospective descriptive epidemiology study identified patients with DLIs in the Vanderbilt LVAD registry or INTERMACS data from January 2013 to August 2017. Driveline infections met International Society for Heart and Lung Transplantation definitions in addition to positive driveline drainage, blood, or sternal wound culture. Relapse included a DLI with an organism associated with previous DLI in the preceding year and similar MICs or new resistance to an antibiotic that was utilized. The LVAD registry and chart review were utilized to collect data. Patients were followed until transplant, death, or August 1, 2017.

Results. A total of 330 patients underwent LVAD implantation. Thirty (9%) met criteria for DLI. Median duration of follow-up was 26 months (IQR 16, 39). There were 74 courses of infection, 40 new infections, and 34 relapsed infections. Median time to first DLI was 171 days (IQR 83, 403). Most common organisms in new DLIs were *S. aureus* (MRSA 11, MSSA 10), diptheroids (6), coagulase-negative staphylococci (6), and *P. aeruginosa* (5). *S. aureus* was the most common pathogen in patients with DLI associated bacteremia (n = 16) as well as relapsed infection (n = 11). There were 42 MIC changes in nine patients with relapsed infections from *S. aureus*, *P. aeruginosa*, and mycobacterium. Median time to first MIC change was 56 days (IQR 36, 88) and type of MIC change was an increase in five cases, decrease in two cases, and both increase and decrease in two cases. Time to first relapse from initial infection was longer in those who received suppression, 60 days vs. 83 days, P = 0.047.

Conclusion. Few patients had DLIs, but relapsed infections were more common with *S. aureus* and *P. aeruginosa.* MIC changes were quite variable and may not be the major contributor to relapsed infection.

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1541. Infectious Complications in Adult Patients with Hemophagocytic Lymphohistiocytosis: A Single-Center Experience

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Background. Hemophagocytic lymphohistiocytosis (HLH) is a rare hematologic disorder which is characterized by excessive immune activation. In adults, it is typically secondary to an underlying process such as autoimmune disease, infection, or malignancy. Guidelines based on expert opinion suggest prophylaxis (PPX) with antiviral, antibacterial, and/or antifungal agents for patients undergoing treatment for HLH; however, the incidence of infectious complications is not known. We aimed to study the scope of infection in patients with HLH to help determine the best strategy for antimicrobial PPX.

Methods. We performed a retrospective chart review of 56 adult patients who fulfilled clinical diagnostic criteria for HLH treated at Stanford University Hospital between 2012 and 2018. Infections diagnosed up to 1 month prior and up to 6 months after a diagnosis of HLH were reviewed.

Results. A total of 57 episodes of HLH in 56 patients were reviewed. Infection was determined to be the trigger of HLH in five cases (EBV in three cases, Histoplasma in one case, MAC or HHV6 in one case). Antiviral PPX was used in 72%, PCP PPX in 75%, and antifungal PPX in 77% of HLH episodes. At least one infectious complication occurred in 33 of 57 episodes of HLH (58%) with 69 total infections diagnosed after HLH diagnosis: 46 bacterial, 12 viral, and 11 fungal. Bacterial infections included bacteremia (43%), pneumonia (15%), skin and soft tissue (13%), intra-abdominal infection (11%), urinary tract infection (13%), and others (5%). Of the viral infections, CMV viremia was the most prevalent and occurred in four patients (7% of HLH episodes). Fungal infections occurred in 19% of HLH episodes and included four yeast and seven mold infections (five proven and two possible). Three of these cases were not receiving antifungal PPX prior to infection; the remaining eight were breakthrough infections.

Conclusion. Infectious complications of HLH are common, and likely result from a combination of host immune factors related to underlying disease and induced by immunosuppressive chemotherapy. Most noteworthy is the incidence of fungal infections which supports the use of antifungal PPX in this patient population. Even with this, breakthrough infection, including with opportunistic molds, is not uncommon.

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