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1273. Initial Oral Vancomycin vs. Oral Vancomycin After Metronidazole for Severe *Clostridium difficile* Infection

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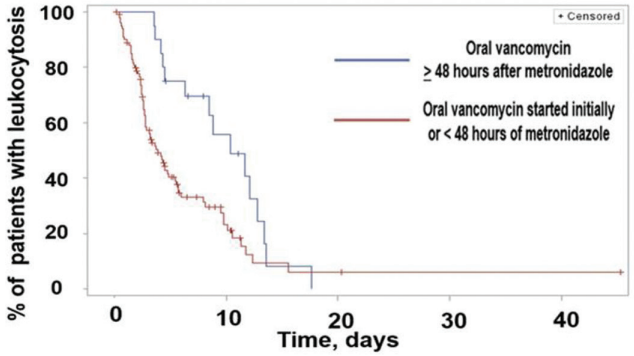
Session: 148. C. difficile: From the Bench to Bedside
Friday, October 6, 2017: 12:30 PM

Background. Treatment of severe *Clostridium difficile* infection (CDI) with oral vancomycin (oVAN) is known to be superior to treatment with metronidazole. However, previous studies have not evaluated the impact on patients when oVAN therapy is delayed after diagnosis or suspicion of severe CDI.

Methods. This was a single-center, retrospective study of adult patients who were diagnosed with severe CDI as defined by a white blood cell (WBC) count greater than 15,000 cells/mm^3. The primary outcome was in-hospital mortality between patients treated initially with oVAN vs. delayed oVAN after metronidazole. Secondary outcomes included clinical cure by day 10, post-infection length of hospitalization, the time to resolution of leukocytosis and renal function at the end of treatment. Leukocytosis was defined as a WBC greater than 12,000 cells/mm^3. Patients were excluded if they received oVAN for a previous episode of CDI, were receiving treatment for a concurrent infection, were receiving high-dose steroids, or received metronidazole or oVAN within 5 days preceding CDI diagnosis.

Results. A total of 121 patients were included. Overall, 49% of patients were female and the median age was 67 years old. 101 patients comprised the initial oVAN group, while 20 patients comprised the delayed oVAN group. Baseline demographics did not differ significantly between groups other than the time to initiation of oVAN (0.33 vs. 3.18 days, $P < 0.001$). There was no significant difference in in-hospital mortality for patients in the initial oVAN treatment group compared with those who had delayed oVAN therapy (5% vs. 15%, $P = 0.13$). Patients who received oVAN initially experienced a higher rate of clinical cure by day 10 (49.5% vs. 20%, $P = 0.02$), a shorter median post-infection length of hospitalization (7 days vs. 13 days, $P < 0.001$), a shorter median time to resolution of leukocytosis (3.9 days vs. 10.4 days, $P = 0.01$), and were less likely to have an end of treatment serum creatinine greater than 1.5 times their baseline (8.7% vs. 29.4%, $P = 0.03$).

Conclusion. Patients who receive oVAN as their initial treatment for severe CDI have improved clinical outcomes compared with those initially treated with metronidazole.



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

1274. Epidemiology and Outcomes of *Clostridium difficile* Infection in Hospitalized Patients within the US Military Health Care System

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Session: 149. HAI: C. difficile *Epidemiology, Impact, and Testing*
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Background. *Clostridium difficile* infection (CDI) has become an emerging epidemic in the healthcare community. Our study aims to characterize the epidemiology and measure the attributable cost, length of stay, and in-hospital mortality of CDI among hospitalized patients in the US military health system (MHS).

Methods. We performed a retrospective cohort study of patients with CDI using MHS database billing records. Cases included all active duty patients, their dependents, or retirees admitted to a US military treatment facility for ≥2 days from October 2008 to September 2015 with a stool sample positive for *Clostridium difficile* via enzyme immunoassay, tissue cytotoxin assay, toxigenic culture, or polymerase chain reaction (PCR). Patient case-mix adjusted outcomes including in-hospital mortality, length of stay, and hospitalization cost were evaluated by high-dimensional propensity score adjusted logistic regression.

Results. Among 1,156,672 admissions within the MHS from 2008–2015, we identified 1,640 (0.14%) patients with CDI and found a significant increase in the trend of CDI over the 7-year study period ($P < 0.001$). Median age (IQR) was 63 (41–76) in the CDI hospitalized group and 26 (6–46) in the non-CDI hospitalized group. Male gender was a risk factor for CDI (unadjusted odds ratio, 1.94; 95% confidence interval 1.76–2.14) and the majority of patients (84.5%) were associated with large-size medical centers. Patients hospitalized with CDI had significantly higher hospitalization cost (attributable difference [AD] $51,959, $P < 0.001$), prolonged hospital stay (AD 11.8 days, $P < 0.001$), and in-hospital mortality (case-mix adjusted odds ratio 3.28; 95% confidence interval 2.69–4.00).

Conclusion. CDI in hospitalized patients within the MHS is associated with advanced age, large medical centers, and an increased length of stay, hospital cost, and in-hospital mortality. We identified a significantly increased burden of hospitalization among patients admitted with CDI, highlighting the importance of infection control and antimicrobial stewardship initiatives aimed at decreasing the spread of this pathogen.

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1275. *Clostridium difficile* Infection in Hematopoietic Stem Cell Transplant Patients: A Single-center Experience

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Background. C. difficile infection (CDI) is the most common cause of nosocomial infections in U.S. and leading cause of gastroenteritis associated death. Incidence of CDI in hematopoietic stem cell transplant (HSCT) patients has been reported between 5.7% to 24.7% during first year after HSCT. Literature review reveals many risk factors i.e., allogenic-HSCT, extremes of age, myeloablative conditioning, prior vancomycin resistance (VRE) colonization, pre-transplant C. difficile colonization, severe mucositis, graft vs. host disease (GVHD), duration and type of antibiotics used, immunosuppression, proton pump inhibitor use and NAP1 *C. difficile* strain.

Methods. To study incidence and different variables for CDI, we performed a retrospective review of medical records of adult patients who underwent HSCT between 2013 and 2016 at our center. REDCap database was used to record key variables related to each patient's HSCT and CDI, keeping in mind HIPPA guidelines. Categorical data were summed up as percentages and counts and numeric data as means, medians, standard deviations and ranges.

Results. A total of 181 HSCT recipients were included. Incidence of CDI was 10% (18 Patients). Cohort's most common underlying malignancy was multiple myeloma (35.4%). 70% had autologous HSCT and 30% had allogenic HSCT. Among allogenic transplants, 53% had matched unrelated donor. Peripheral blood was the most common stem cell source (93%). Most common myeloablative conditioning regimen was melphalan (70%). 27% patients were on PPIs. 4% had PEG/NG tube placed and 12% were on TPN. 10% had diabetes mellitus. 5 patients had previous episodes of CDI. 69% developed mucositis. 5% patients developed acute GVHD. 6% had VRE colonization while 66% had no documentation for VRE. Out of positive CDI cases, 17% were NAP1 positive. No episode of ileus or mega colon was documented. Most common treatment regimen were metronidazole 500 mg per orally every 8 hourly (65%) and vancomycin 125 mg per orally four times a day (58.8%).

Conclusion. This single-center study demonstrates that CDI has 10% incidence in patients undergoing HSCT. Risk factors include neutropenia, high dose chemotherapy, mucosal damage and provision of broad spectrum antibiotic prophylaxis. Data on CDI prophylaxis in these patients is emerging and randomized prospective trials are needed.

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1276. Longitudinal Trends of *Clostridium difficile* Infection (CDI) within Department of Veterans Affairs (VA) Medical Centers—Acute Care and Long-term Care

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