Prevalence of and Factors Associated with Clostridium difficile Co-infection Among Patients with Candidemia, United States, 2014–2016

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Table 3. Multivariate analysis of 30-day infection-related mortality

<table>
<thead>
<tr>
<th>OR</th>
<th>p value</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement &lt; 2 days</td>
<td>5.908</td>
<td>0.031</td>
</tr>
<tr>
<td>26 days</td>
<td>29.67</td>
<td></td>
</tr>
<tr>
<td>Hematological malignancy</td>
<td>3.038</td>
<td>0.281</td>
</tr>
<tr>
<td>26 days</td>
<td>22.896</td>
<td></td>
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</tbody>
</table>

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1779. Prevalence of and Factors Associated With Clostridium difficile Co-infection Among Patients With Candidemia, United States, 2014–2016
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Session: 216. The Fungus Among us – Clinical Advances
Saturday, October 7, 2017: 8:30 AM

Background. Candidemia and Clostridium difficile infection (CDI) are two common healthcare-associated infections (HAIs) and share risk factors such as antibiotic use and prolonged hospitalization. CDI and CDI treatment disrupt gut microbial diversity, allowing Candida overgrowth and translocation to the bloodstream. We describe CDI co-infection among patients with candidemia.

Methods. Population-based surveillance for candidemia was conducted through CDC's Emerging Infections Program during 2014–2016. A case of candidemia was defined as a blood culture positive for Candida species collected from a surveillance area resident. Demographic and medical information, including occurrence of CDI, was collected. We defined co-infection as CDI within 90 days of candidemia and performed bivariable analysis to assess factors associated with co-infection.

Results. Among 2129 cases of candidemia, 190 (9%) had CDI co-infection; 116 (61%) were female, 257 (55%) were black, 357 (75%) had diabetes, and 207 (50%) had a hospital-acquired infection. Among patients with Candida co-infection, the odds of CDI-candidemia co-infection was significantly greater for patients of black race (OR 1.41, 95% CI 1.05–1.90), those with diabetes (OR 1.68, 1.24–2.27), pancreatitis (OR 1.91, 1.01–3.61), or solid organ transplant (OR 4.15, 2.09–8.22). Those with HIV/AIDS had lower odds of certain healthcare exposures: hemodialysis (OR 2.27, 1.01–5.61), antiviral treatment (OR 0.52, 0.30–0.91), or solid organ transplant (OR 0.94, 0.49–1.8), compared to patients without HIV/AIDS. Co-infection had higher odds of certain healthcare exposures: hemodialysis (OR 2.27, 1.01–5.61), or solid organ transplant (OR 4.15, 2.09–8.22). Those with HIV/AIDS had lower odds of certain healthcare exposures: hemodialysis (OR 2.27, 1.01–5.61), antiviral treatment (OR 0.52, 0.30–0.91), or solid organ transplant (OR 0.94, 0.49–1.8), compared to patients without HIV/AIDS.

Conclusion. Our data highlight the importance of CDI screening in patients with candidemia and contributing factors for co-infection which could have important practical implications.

1781. Galidesivir, a Direct-Acting Antiviral Drug, Abrogates Viremia in Rhesus Macaques Challenged with Zika Virus
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Session: 217. Zika - A to Z
Saturday, October 7, 2017: 8:30 AM

Background. Zika virus (ZIKV) was first isolated from a sentinel rhesus monkey in 1947. ZIKV infection in humans is associated with serious neurological and reproductive complications. No antiviral or protective vaccine is yet available. Galidesivir an adenosine analog is a potent viral RNA-dependent RNA polymerase inhibitor with demonstrated broad-spectrum antiviral activity.

Methods. We have conducted four pre-clinical studies in rhesus macaques to assess antiviral efficacy and dosing strategies of galidesivir against ZIKV infection. Collectively, we have evaluated galidesivir in 70 rhesus macaques by intramuscular (IM), intravenous (IV), and oral (PO) routes at 1x105 TCID50 of a Puerto Rican ZIKV isolate. We have evaluated galidesivir therapy administered via IM injection as early as 90 minutes and up to 72 hours after subcutaneous (SC) ZIKV challenge, and as late as 5 days after intravaginal (IVAG) challenge. In these studies, we evaluated the efficacy of a range of loading and maintenance doses of galidesivir. The highest dose evaluated has been a loading dose of 100mg/kg BID followed by a maintenance dose of 25mg/kg BID for nine days. We followed multiple endpoints, including ZIKV RNA levels in plasma, urine, saliva, and cerebrospinal fluid. Immune activation, complete blood counts, chemistries and galidesivir pharmacokinetics were also monitored.

Results. Galidesivir was well-tolerated in all studies. All untreated controls developed high-level plasma viremia, and had readily detectable ZIKV RNA in CSF, saliva, and urine. Animals treated in the first 24 hours after SC ZIKV challenge did not develop plasma viremia and were either negative or had significantly reduced ZIKV RNA in bodily fluids. Animals treated with galidesivir later (up to 72 hours) were partially protected; they had detectable plasma ZIKV RNA, but the onset was delayed and the magnitude significantly reduced compared with controls. Animals infected with IVAG were protected by galidesivir treatment up until day 5 after infection, with no blood viremia and significant reductions in ZIKV RNA in the CSF as compared with controls.

Conclusion. Galidesivir dosing in rhesus macaques was well-tolerated and offered significant protection against ZIKV infection. These results warrant continued study and clinical evaluation.