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

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17.79. 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 candidemia 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%) of these cases occurred within 14 days of the candidemia diagnosis. Risk factors for CDI co-infection included 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 co-infection had higher odds of certain healthcare exposures: hemodialysis (OR 2.27, 1.57–3.28), hospital stay in the past 90 days (OR 1.8, 1.37–2.64), ICU admission in the past 14 days (OR 1.78, 1.20–2.66), and central venous catheter (CVCV) at the time of candidemia (OR 1.71, 1.19–2.46). There were no significant differences in 30-day mortality or in type of Candida species, although, C. parapsilosis was less common in the co-infection group (8% vs. 13%).

Conclusion. Nearly one in ten patients with candidemia also had CDI co-infection. Black race, certain underlying conditions, hemodialysis, previous hospitalization, ICU stay, and the presence of a CVC were associated with co-infection. Clinicians should be vigilant for co-infection of CDI and candidemia, particularly in situations with associated risk factors.

Disclosures. W. Schaffner, Pfizer: Scientific Advisor, Consulting fee; Merck: Scientific Advisor, Consulting fee; Novavax: Consultant, Consulting fee; Dynavax: Consultant, Consulting fee; Sanofi-pasteur: Consultant, Consulting fee; GSK: Consultant, Consulting fee; Seqirus: Consultant, Consulting fee

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 is an adenosine analog that potently inhibits RNA polymerase with demonstrated broad-spectrum antiviral activity.

Methods. We have conducted four pre-clinical studies in rhesus macaques to evaluate antiviral efficacy and dosing strategies of galidesivir against ZIKV infection. Collectively, we have evaluated 70 rhesus monkeys (25 male, 45 female) ranging 1×105 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. We evaluated the efficacy of a range of loading and maintenance dosages of galidesivir. The highest dose evaluated had 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 in the 1st 48 hours after SC ZIKV challenge. Animals treated with galidesivir later (up to 72 hours) were partially protected; they had detectable ZIKV plasma RNA, but the onset was delayed and the magnitude significantly reduced compared with controls. Animals infected with ZIKV 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.


1782. Outcomes of women with laboratory evidence of Zika infection in pregnancy
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Session: 217. Zika – A to Z Saturday, October 7, 2017: 8:30 AM

Background. Zika virus (ZIKV) infection in pregnancy is a global health concern. With onset of local transmission, obstetricians in Miami-Dade County, FL,