1104. Deployment-Associated Infectious Gastroenteritis and Associations With Irritable Bowel Syndrome, Post-Traumatic Stress Disorder, and Combat Stress: A Retrospective Cohort Study Among Deployed United States Military Personnel

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Background. Previous studies have shown an association between post-traumatic stress disorder (PTSD) and the development of irritable bowel syndrome (IBS) in deployed service members. Deployment places soldiers at risk for chemical, physical, psychological, and infectious stressors. Acute stress can alter the gastrointestinal barrier leading to gut barrier dysfunction, which is an independent risk factor for infectious gastroenteritis (IGE). We sought to assess if there was an association between IBS and PTSD in military deployed in support of recent and ongoing military operations.

Methods. We conducted a retrospective cohort study of United States military service members who participated in a combat deployment to the Middle East from 2001 to 2013 with no prior Axis I disorders or PTSD diagnoses based on data from the Defense Medical Surveillance System. Univariate and multivariate logistic regression models were used to assess the differential risk of PTSD following a combat deployment among those with and without a predeployment diagnosis of IBS. These models were controlled for confounders/covariates of interest (IGE, age, duration of deployment, sex, race, marital status, education level, military rank, branch of service, number of deployments).

Results. Among 1,252 subjects, those who developed IGE had a 3.4 (95% CI: 2.1, 5.3) increased risk of PTSD compared with those with no IGE during deployment. Additionally, those with IBS predeployment had a 40% (P = 0.001) increased risk of PTSD upon return from deployment compared with those without IBS predeployment. Duration of deployment was significantly (P < 0.001) associated with PTSD compared with adults. The aim of our study was to determine whether the highest disease burden of cholera in endemic areas. While children develop serum antibodies, adults do not.

Conclusion. Further understanding the potential interactions between the gut–brain–microbiome may have immediate and long-term resilience implications and decrease the quality of life in returning soldiers. Further understanding the acute stress-related microbiota perturbations may lead to short- and long-term resilience.

Disclosures. All authors: No reported disclosures.

1105. Vibriocidal Titration and Likelihood of Protection in Children Compared With Adults in a Cholera Endemic Area

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Background. V. cholerae, the causative agent of cholera, is responsible for significant morbidity and mortality worldwide. Children less than 5 years old have the highest disease burden of cholera in endemic areas. While children develop serum vibriocidal antibody responses to cholera vaccines, they derive less protection from vaccination compared with adults. The aim of our study was to determine whether the vibriocidal immune responses to V. cholerae infection are equally accurate as markers of protection in all age groups.

Methods. Cholera patients and their household contacts, who are known to be at high risk of V. cholerae infection, were enrolled between 2001 and 2017 in Dhaka, Bangladesh. Baseline vibriocidal titers were measured at the time of enrollment of household contacts, and participants were followed prospectively for development of V. cholerae infection.

Results. We studied 50 contacts < 5 years old (“young children”), 228 contacts 5–16 years old (“older children”), and 548 contacts > 16 years old (“adults”). The baseline serum vibriocidal titer was higher in contacts who remained uninfected from all age groups than in contacts who developed cholera during the follow-up period (young children: P = 0.0092; older children: P = 0.0003; adults: P = 0.0012).

Conclusion. We found that higher vibriocidal antibody titers were associated with protection against V. cholerae infection across all three age categories. These findings may help increase our understanding of the protective immune response against V. cholerae infection and have importance for future vaccine development strategies.

Disclosures. All authors: No reported disclosures.