1117. Avascular Necrosis of the Femoral Head as a Sequela of Shiga Toxin-producing *Escherichia coli* (STEC) Infection

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Background. Shiga toxin-producing *Escherichia coli* (STEC) infection may be complicated by the hemolytic-uremic syndrome (HUS). Long-term sequelae of HUS are most often related to renovascular disease. Osteoarticular complications are rare. Avascular necrosis (AVN) has not been previously reported as a complication of STEC infection.

Methods. We report two cases of United States Marine Corps (USMC) recruits who developed AVN of the femoral head following STEC infection during a large outbreak.

Results. Between October and November 2017, an STEC outbreak occurred at Marine Corps Recruit Depot San Diego (MCRD-SD) affecting over 250 USMC recruits. Case 1: A 19-year-old recruit developed nine days of non-bloody diarrhea. Stool culture, Shiga toxin enzyme immunoassay (EIA), and polymerase chain reaction (PCR) demonstrated *E. coli* O157. Complete blood count (CBC) was normal 5 days after symptom resolution. One month after resolution of his infection, he developed right hip pain. Magnetic resonance imaging (MRI) revealed right femoral head AVN (Image 1). He was treated conservatively with nonsteroidal anti-inflammatory drug (NSAID) and physical therapy. Case 2: A 19-year-old recruit developed seven days of dysentery. Stool culture, Shiga toxin EIA and PCR demonstrated *E. coli* O157. He had a hemoglobin nadir of 8.0 g/dL and platelet nadir of 109×10^3/microL. Renal function was normal except for mild proteinuria and microscopic hematuria. One month after resolution of his infection, he developed non-traumatic left hip pain. MRI revealed left femoral head AVN with subchondral collapse (Image 2). He completed three months of bisphosphonate therapy prior to his left hip core decompression and sub-chondroplasty.

Conclusion. AVN of the hip is rare among healthy young adults and is not commonly observed in military recruits. We hypothesize that STEC-associated subclinical intravascular coagulopathy may cause microscopic occlusive disease. AVN should be considered in patients with new non-traumatic hip pain after known or suspected STEC infection.

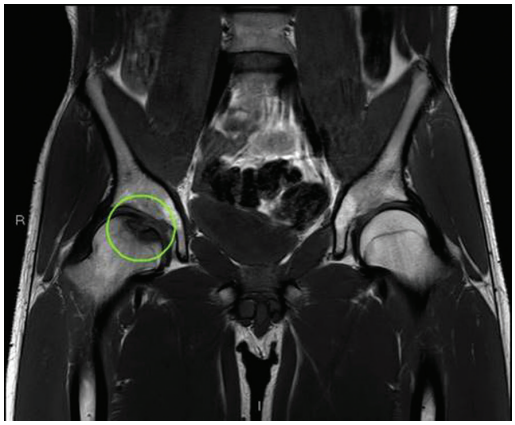

Image 1: Hypointense T1 signal sclerosis and collapse of the bone fragment with a peripheral rim of hypointense signal on MRI.

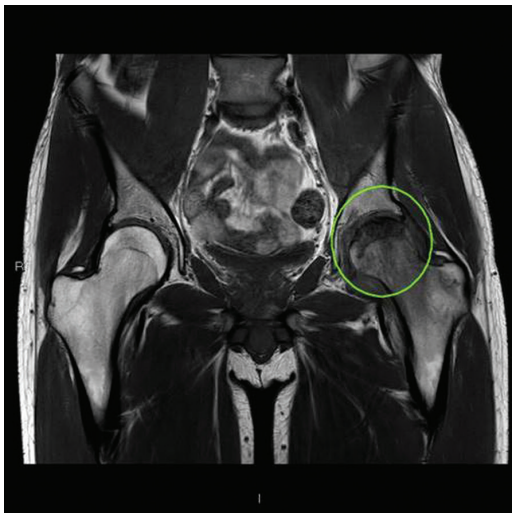

Image 2: Hypointense T1 signal in superior left femoral head with subtle subchondral collapse on MRI.

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1118. Viral Species Richness and Composition in Young Children With Loose or Watery Stool in Ethiopia

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Background. Stool consistency is an important diagnostic criterion in both research and clinical medicine and is often used to define diarrheal disease.

Methods. We examine the pediatric enteric virome across stool consistency to evaluate differences in richness and community composition using fecal samples collected from children participating in a clinical trial in the Amhara region of Ethiopia. The consistency of each sample was graded according to the modified Bristol Stool Form Scale for children (mBSFS-C) before a portion of stool was preserved for viral metagenomic analysis. Stool samples were grouped into 29 pools according to stool consistency type. Differential abundance was determined using negative-binomial modeling.

Results. Of 446 censused children who were eligible to participate, 317 presented for the study visit examination and 269 provided stool samples. The mean age of children with stool samples was 2.7 years old. Species richness was highest in watery-consistency stool and decreased as stool consistency became firmer (Spearman's $r = -0.45$, $P = 0.013$).The greatest differential abundance comparing loose or watery to formed stool was for norovirus GII (7.64, 95% CI 5.8, 9.5) followed by aichivirus A (5.93, 95% CI 4.0, 7.89) and adeno-associated virus 2 (5.81, 95% CI 3.9, 7.7).

Conclusion. We documented a difference in pediatric enteric viromes according to mBSFS-C stool consistency category, both in species richness and composition. Our results suggest that loose or watery stool, as measured by the mBSFS-C, may signal enteric viral infection in young children. Additional studies are warranted to confirm these findings.

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1119. Risk Factors for *Clostridium difficile* Acquisition and Persistence among Guatemalan Children

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Background. Little is known about the epidemiology and risk factors for *Clostridium difficile* infection (CDI) among children in low and middle-income countries (LMICs). We sought to characterize the clinical, demographic, and environmental factors associated with *C.difficile* acquisition and persistence over time, and assess the relationship between CDI and additional diarrheal pathogens among rural and urban Guatemalan children.

Methods. Children 6–35 months old with acute nonbloody diarrhea (<72 hours) were enrolled in an acute diarrhea clinical trial between March 2015 and January 2016 at two sites (one rural and one urban) in Guatemala. Stool samples collected at baseline and 30 days later were analyzed by multiplex PCR (FilmArray™ GI-Panel, BioFire, USA) that identifies 22 viral, parasitic and bacterial diarrheal pathogens including *C. difficile*. Subjects were characterized by combination of baseline and 30-day *C.difficile* sample results: −/+ (new acquisition), +/− (clearance), and +/+ (persistence). Associations between these categorizations and demographic, epidemiologic, and co-infecting pathogenic organisms were assessed using multivariable generalized linear models.

Results. CDI was present in 26 of 298 subjects at baseline; 13 (50%) had persistence at 30 days and 13 (50%) cleared. New acquisition at day 30 occurred in 23 subjects. In multivariable analysis adjusted for age, recent hospitalization was marginally significantly associated with *C. difficile* presence in stool at baseline (prevalence ratio [PR] 2.65, $P = 0.07$). In subjects with either new *C. difficile* acquisition or persistence between baseline and day 30, residence in the rural site (PR 0.33, $P = 0.003$)) and presence of *E. coli* pathotypes: enteropathogenic (EPEC), enteroaggregative (EAEC), and enterotoxigenic (ETEC) (PR 0.43, $P = 0.01$)) were associated with reduced risk of CDI.