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A Case of Hemolytic Uremic Syndrome associated with Shigella Species

Background: Hemolytic uremic syndrome (HUS) is a well-known complication of bacterial gastroenteritis, most commonly Shiga-toxin-producing *E. coli* (STEC) and less frequently *Shigella* species. The diagnostic criteria include microangiopathic hemolytic anemia, thrombocytopenia, and acute kidney injury (AKI). Timely diagnosis and identification of causal organisms are essential as it affects the management of the condition.

Clinical Presentation: We present an interesting clinical case of a 30-month-old boy who came to the Pediatric Emergency Department (ED) with a 2-day history of fever, non-bloody diarrhea, and vomiting. The patient was initially admitted for moderate dehydration in the setting of likely viral gastroenteritis and managed with supportive care. He developed bloody diarrhea within a day of admission with worsening clinical symptoms. His labs showed anemia, hemoglobinuria, thrombocytopenia, and his pre-renal AKI progressed to intrinsic AKI, concerning for HUS. However, his anemia was not associated with an elevated reticulocyte count, indirect hyperbilirubinemia, nor decreased haptoglobin. Stool PCR results showed enteroinvasive *E. coli* and *Shigella* species. Antibiotics were withheld due to concerns of STEC. Two days later, the stool culture confirmed the presence of *Shigella dysenteriae*. The patient was treated with ceftriaxone for shigellosis with possible mild HUS. His clinical course improved, and he was discharged on hospital day 9.

Discussion: Evidence for STEC has shown an increased risk of HUS or worsening of existing HUS with antibiotic treatment. However, *Shigella* has not been shown to cause an increased risk of HUS with antibiotic treatment. This case report aims to shed light on atypical presenting features of hemolytic uremic syndrome and stress the importance of early detection and species identification of causal bacterial organisms as this can affect the decision to administer antibiotics.