LETTER TO EDITOR (VIEWERS CHOICE)

UNUSUAL EXTRA-INTESTINAL MANIFESTATION OF THE ROTAVIRUS INFECTION

Abdulkarim Said Al-Makadma, Kamel Al-Enazi

Key words: diarrhea, encephalitis, extra intestinal, gastroenteritis, hepatitis, rhabdomyolysis, rotavirus

A nine month-old male, previously healthy, and fully vaccinated except for rotavirus presented to the emergency department with history of fever, frequent vomiting, profuse non-bloody watery diarrhea and decreased activity for five days. On the last day he developed up-rolling of the eyes, and facial twitching for minutes. On examination he looked unwell, lethargic, and severely dehydrated. His growth parameters were normal. Vitals revealed a heart rate of 158 beats/min, respiratory rate of 50/min and blood pressure of 95/60 mmHg. His capillary refill time was three seconds. He had weak spontaneous movements of the limbs with fair muscle tone. The deep tendon reflexes of the four limbs were not exaggerated. The initial laboratory work up showed white blood cell count (WBC) of 11,700/ cumm with 62 percent being neutrophils, hemoglobin 12.4 g/dL, platelets 131000/cumm and C-reactive protein 5 mg/dL. Serum sodium was 172 mEq/L, potassium 3.6 mEq/L, chloride 146 mEq/L, bicarbonate 13.5 mEq/L, blood urea nitrogen (BUN) 8.6 mmol/L, serum creatinine 124 mol/L, alanine aminotransferase (ALT) 103 IU/L, aspartate aminotransferase (AST) 2142 IU/L, serum lactate 6.7 mmol/L and serum ammonia 54 mmol/L. His serum glucose, albumin and amylase were normal. The serology for cytomegalovirus (CMV), Epstein Barr virus (EBV), and other hepatitis viruses were negative. His stool was positive for rotavirus antigen (latex agglutination test), but was negative for adenovirus, and it was also negative for ova and parasite. His blood, urine and stool cultures revealed no bacterial growth. Urine was dark in color and was positive for blood (+++) and proteins (++), its microscopy revealed no red blood cells but granulocytes. Brain computerized tomography was normal. The electroencephalogram showed mild degree of slow wave abnormalities over the left hemisphere, suggesting dysfunction involving this area. In addition, mild degree of diffuse nonspecific background slowing was present. Lumbar puncture was not done because of the instability of the patient's condition. Tandem magnetic resonance imaging (MRI) showed abnormal signal intensities were seen in our patient was hepatitis and renal failure. Renal failure can be attributed to more than one factor mainly the dehydration, rhabdomyolysis and the direct rotavirus induced pathology on the renal tissue. Speculation about the rhabdomyolysis etiology in this case may include ischemia, direct viral invasion, hypercytokinemia e.g. tumor necrosis factor (TNF) alpha and increase in the free intracellular calcium which leads to the activation of the calcium-dependent proteases. (8,12) In the reported case, the serum calcium level was low.

Thus rotavirus should be considered in patients with diarrhea and extraintestinal manifestations such as renal failure, CNS manifestations and myositis.

REFERENCES


From: Department of Pediatrics, Children Hospital, King Fahad Medical City, Riyadh-Saudi Arabia.

Address for Correspondence: AbdulKarim S. Al-Makadma, King Fahad Medical City, Children's Hospital, Riyadh, 11525, Saudi Arabia. PO Box 59046. Email: al_makadma@hotmail.com.

E-published: 1st November 2012  Art#72

DOI No. 10.7199/ped.oncall.2012.72

Quick Response Code