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용혈성 요독 증후군을 가진 7세 된 남아에서 파보바이러스 중복 감염에 의한 제5병

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Fifth Disease by Superinfection of Parvovirus B19 in a 7-Year-Old Boy with Hemolytic Uremic Syndrome

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Hemolytic Uremic Syndrome (HUS) is defined by the occurrence of microangiopathic hemolytic anemia, thrombocytopenia, and acute kidney injury. It is one of the main causes of acute kidney injury in children. HUS is divided into two types: typical and atypical HUS. Atypical HUS is known as a disease related to genetic mutations in the alternative complement pathway and has a distinct pathophysiology, whereas typical HUS is resulted from Shiga or Shiga-like toxin-producing Escherichia coli (STEC) and Shigella dysenteriae type 1 infection. Human parvovirus B19 (PVB19) belongs to the Erythroparvovirus genus within the Parvoviridae family. PVB19 is the predominant parvovirus pathogen in humans, and as such, B19 is the prototype strain for genotype 1. PVB19 infection is usually asymptomatic, but it can cause the childhood rash called fifth disease or erythema infectiosum, or "slapped cheek syndrome" in healthy individual and aplastic crisis in patients with hematological disorder, such as congenital or acquired hemolytic anemia. PVB19 infects proerythroblast via P-antigen, inhibits erythropoiesis, makes short life-span of erythrocytes, and causes severe anemia in patients with underlying hematological disorders. PVB19 also induces thrombotic microangiopathy of kidney and suppression of megakaryocyte. We present a case of a 7-year-old boy who initially presented with fever, skin rash, petechiae, headache, and vomiting. His transient febrile episode and skin rash were proven to be associated with parvovirus B19. Evaluation resulted in our impression of the disease being HUS with superinfection of PVB19 or possibly induced by PVB19.

Key Words: 용혈성 요독 증후군, 파보바이러스, 제5병
Hemolytic uremic syndrome, Parvovirus B19, Fifth disease