5th Global Nephrologists-2016
OMICS International Nephrologists Annual Meeting
March 31-April 02, 2016 Valencia, Spain

Refractory anemia due to parvovirus B19 infection in a renal transplant recipient

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Abstract

Post transplant anemia is a common occurrence in kidney transplant recipients (KTRs). Common etiologies include ineffective erythropoietin, drug related erythroid suppression, iron deficiency and infections. Parvovirus B19 infection, though rare, needs to be always considered in the work up of chronic anemia in KTRs, especially in those patients with reticulocytopenia. A 36-year-old Arab male patient underwent living unrelated donor transplantation because of end-stage-renal disease resulting from diabetic nephropathy. He received induction therapy with anti-thymocyte globulin and maintenance with prednisolone, tacrolimus and mycophenolate mofetil (MMF). Allograft function was stable with serum creatinine around 1 mg/ dl. Eighteen months after transplantation, he was detected to have anemia and leucopenia (Hb: 7.3gm/ dl, WBC: 3500/ cc). Blood film revealed microcytosis. Bicytopenia was initially attributed to mycophenolate and the dosage was reduced. Over the next four months, he had recurrent admissions with severe anemia, requiring six units of packed red cell transfusion. Hemoglobin ranged from 4.6- 5.7 gm/ dl. Reticulocyte count varied from 0.41%- 2.22%. Folic acid and B12 levels were unrevealing. CMV DNA PCR was negative. The low reticulocyte count prompted us to consider pure red cell aplasia as a cause for the anemia. Further serologic evaluation was positive for anti parvovirus B19 Ig M, and PV B19 DNA PCR in blood was positive. He received five doses of intravenous immunoglobulin, 400mg/kg body weight daily. Dose of MMF was reduced and tacrolimus level maintained between 4-6 ng/ ml. Hemoglobin improved to 10.8 gm/ dl within a month, and has stabilized at 14 gm/ dl ever since. His clinical follow–up during the subsequent two years has not shown recurrence of anemia, though PV virus levels are just above detection threshold. Parvovirus B19 is a single stranded DNA virus, which has a pronounced tropism for erythroid precursor cells. PV B19 infection is a well-known cause of pure red cell aplasia and should be included in the workup of refractory anemia in KTRs, when more common causes have been excluded. Treatment includes reduction of immunosuppression and administration of intravenous immunoglobulin in severe cases.

Biography

Dhanya Mohan currently works as Specialist Senior Registrar (Nephrology) at Dubai Hospital, Dubai Health Authority; UAE. She completed her Medical graduation from Christian Medical College, Vellore, India. She won many laurels including university medals and prizes and the ‘Best Outgoing Student’ award. She completed her Post-graduation in Internal Medicine from the same institute and won the B. Braun award instituted for outstanding performance. She went on to complete her MRCP (UK) and Specialty Certificate in Nephrology, her performance gaining her a special mention in the MRCP Annual Review 2010. Her areas of interest include chronic glomerulo-nephritis, peritoneal dialysis, kidney transplantation and medical education. With a keen interest in clinical research, she has publications in peer reviewed international journals. In addition, she is a tutor at the Dubai Medical College for Girls and enjoys teaching medical students.