

Repeated intravenous immunoglobulin treatment for recurrent parvovirus induced red cell aplasia in an immunosuppressed renal transplant recipient.

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Background

Parvovirus has five classical clinical presentations including erythema infectiosum (fever and rash mainly in children), arthropathy, transient aplastic crisis, fetal infection and red cell aplasia. Red cell aplasia is more commonly associated with immunosuppressed patients including the transplant population.

Case Presentation

We present a 56 year old caucasian female with recurrent red cell aplasia secondary to parvovirus. She received a DBD renal transplant in April 2019 with a HLA mismatch 1:1:1. She received basiliximab induction was maintained on Tacrolimus, Mycophenolate Mofetil (MMF) and Prednisolone. She presented several weeks after transplant with recurrent anaemia requiring multiple blood transfusion and a low reticulocyte count of 1.8. Her parvovirus serology (IgM and IgG) was negative but her parvovirus PCR was raised at 157 billion units/ml.

Treatment

She was treated with intravenous immunoglobulin (IVIG). After a review of the literature we administered Privagen 2g over 5 days based on ideal body weight. The patient was counselled regarding the risks and written consent completed. Her MMF was discontinued and her Tacrolimus dose reduced to aim for lower therapeutic levels. The patient was discharged with regular haemoglobin and parvovirus PCR monitoring as an outpatient. Initially her haemoglobin level improved and the parvovirus titre decreased to 1020 units/ml. However four months after the initial IVIG treatment, her haemoglobin dropped again and the parvovirus titre relapsed to 178 billion units/ml. The patient was readmitted to hospital. Transfusion was not required during this admission and she was treated promptly with a second course of IVIG.

Outcome

The patient continues to have outpatient monitoring. Her haemoglobin has again improved and the parvovirus titre is falling. She also had an episode of CMV viremia in December 2019 which resolved with augmentation of her immunosuppression and treatment with valgancyclovir. Her MMF was not restarted and she continues on Tacrolimus and Prednisolone with stable renal function.

Discussion

Parvovirus should be considered in all anaemic immunosuppressed patients and investigated with PCR as serology may often be negative. Continued monitoring is important to detect a relapse in anaemia and parvovirus viremia as repeated courses of IVIG treatment may be required. Literature would suggest that patients require a mean of 2.7 courses of IVIG and relapse is most common at 4.3 months on average post treatment (1).

Reference

1) Crabol Y, Terrier B, Rozenberg F, et al. Intravenous immunoglobulin therapy for pure red cell aplasia related to human parvovirus b19 infection: a retrospective study of 10 patients and review of the literature. *Clinical Infectious Diseases*, Volume 56, Issue 7, 1 April 2013, Pages 968–977