

LETTER TO THE EDITORS

Transmission of Dengue Virus From a Donor to a Recipient After Living Donor Liver Transplantation

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TO THE EDITORS:

There is a potential risk of transmission of dengue virus from donors to recipients after organ transplantation in endemic regions.¹ A 38-year-male underwent right lobe living donor liver transplantation for hepatitis B-related cirrhosis; the donor was his 19-year-old son. The immediate postoperative period was uncomplicated. His immunosuppression consisted of methylprednisolone, tacrolimus, and mycophenolate mofetil. On postoperative day 6, the recipient developed fever, thrombocytopenia, and severe graft dysfunction (Fig. 1). His liver Doppler ultrasound examination was normal. He underwent ultrasound-guided percutaneous liver biopsy after the correction of his clotting parameters, which showed functional cholestasis without any features of acute rejection. His viral markers for hepatitis A and E were negative. His blood tested positive for dengue nonstructural protein 1 antigen; his donor, who also had a fever after the operation without significant derangement of his liver enzymes or thrombocytopenia, was found to be positive for this as well. On further evaluation, both the recipient and the donor were found to be positive for the same serotype of dengue virus RNA by real-time polymerase chain reaction. A diagnosis of posttransplant dengue infection was made, and there was a strong suspicion of transmission of dengue virus from the donor to the recipient. The recipient was treated with supportive measures, including adequate hydration, correction of coagulopathy, broad-spectrum antibiotics, and optimization of immunosuppression doses. Serial hematological and biochemical parameters showed progressive improvement over the next 2 weeks (Fig. 1).

This is the first reported case of the transmission of a dengue infection from a donor to a recipient after living donor liver transplantation. A similar transmission of dengue from a donor to a recipient after renal transplantation has been reported.¹ Dengue virus infection continues to be a significant problem in northern India.² Its impact on the liver allograft in the setting of

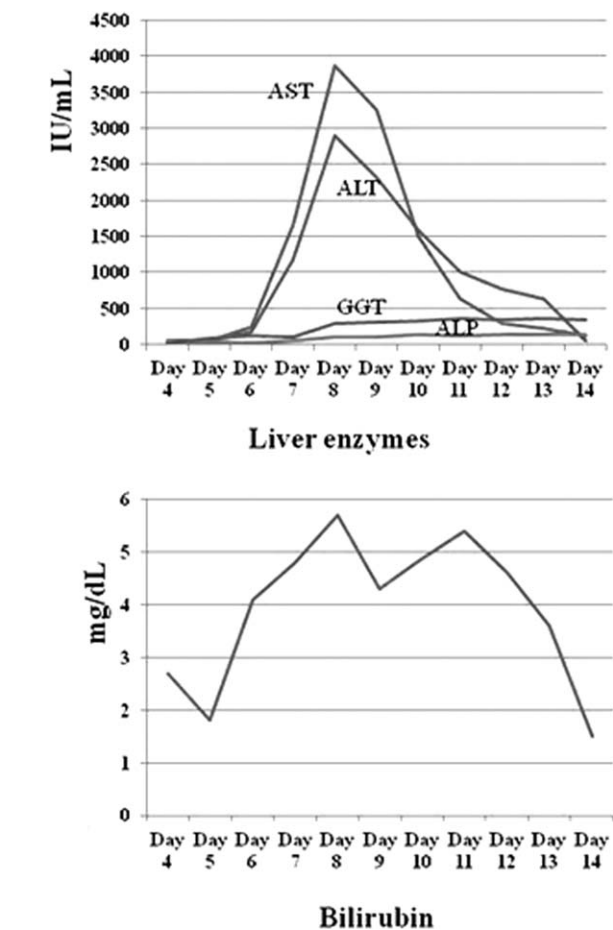


Figure 1. Serial improvements in liver biochemical parameters.

immunosuppression is not fully known. In this case, the recipient developed severe graft dysfunction on postoperative day 6. A high index of suspicion and astute clinical judgment allowed us to make a diagnosis of posttransplant dengue causing severe hepatitis. The positive test results for dengue infection in both the recipient and his donor and the temporal profile of

Abbreviations: ALP, alkaline phosphatase; ALT, alanine aminotransferase; AST, aspartate aminotransferase; GGT, gamma-glutamyltransferase.

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the infection are highly suggestive of the transmission of this virus from the donor to the recipient via the allograft. Routine testing of dengue serology in donors and recipients is not practiced as part of the pretransplant workup at our center. The recipient was admitted to the hospital 10 days before his transplant, whereas the donor was in the community and was admitted the night before the transplant surgery. Because the recipient was hospitalized, he could not have been exposed to dengue virus before his transplant, the incubation period of which is 2 to 7 days.³ Hence, it is most likely that the donor was exposed to dengue virus in the community and transmitted the virus to the recipient. It is extremely unlikely that the recipient acquired dengue in our highly sanitized transplant intensive care unit. Also, the recipient did not have any manifestations suggestive of evolving dengue in the pretransplant period. As of now, no specific therapy or vaccine is available for dengue infection, and the management is primarily supportive.⁴ A missed diagnosis is likely to be detrimental because increasing immunosuppression with a suspicion of acute rejection in such cases will further aggravate the dysfunction of the liver allograft. This case highlights the importance of having a high index of suspicion for dengue infection in the presence of graft dysfunction in dengue-endemic areas.

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