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Letter to the Editor

Hepatitis C Virus Infection in a Living-Related Liver Donor

To the Editor:

In November 2007, a 27-year-old-male was found to be a suitable candidate for living donation to his 61-year-old mother, suffering from HCV-related cirrhosis and hepatocellular carcinoma. He reported having received the hepatitis B vaccine series. The antibody to HCV on the index-donation plasma unit was nonreactive (AxSYM HCV version 3.0; ELISA, Abbott, Chicago, IL), and his hemogram, renal function tests and liver profile were normal. Preoperative liver donor biopsy 15 days before surgery showed normal lobular architecture of hepatic parenchyma.

In December 2007, a right hepatectomy was performed, without allogeneic blood transfusion. Blood samples were drawn one day before donation and hemogram, renal function tests, and liver profile were normal. The early postoperative course was uneventful, and the patient was discharged home on postoperative day seven. On postoperative day 19, his transaminases values were again elevated (10 times the upper normal limit). Abdominal CT-scan and MRI showed no morphological signs of complication. Liver enzymes were significantly reduced when rechecked 3 days later, but on postoperative day 40 they went up again (ALT 459 IU/mL). At this point, we immediately performed a complete workup, including HAV, HCV, HBV, CMV, HSV, VZV, EBV, HHV-6 and HHV-8, to rule out infectious hepatitis. Anti-HCV antibodies were negative, even when tested with a third-generation anti-HCV assay (Ortho-Clinical Diagnostics, Inc., Johnson & Johnson, New Brunswick, NJ), however, HCV-RNA was positive in peripheral blood samples, with 1 250 000 genome copies per mL (Cobas TaqMan HCV Test, v2.0; Roche Diagnostics, Branchburg, NJ).

The HCV genotype identified in the donor was 1b, the same as the recipient. We investigated all transplant-related procedures, and operating rooms, and found no potential source of transmission. No cross-contamination occurred during the procedure, because we used different operating rooms, surgical instruments and medical and nursing staff. The donor and recipient did not share living space in the postoperative course, and stayed in separate rooms at the hospital. They also had normal, healing postoperative wounds upon discharge.

We opted for expectant management (1). Anti-HCV antibodies became positive on postoperative day 57. However, a persistently elevated transaminases level and HCV-RNA positivity (3730 genome copies per mL) in the third postoperative month prompted us to start therapy. HCV therapy with peginterferon and ribavirin was started in April 2008, with clearance of HCV-RNA after 52 days of treatment and normalization of transaminases levels after a cycle of 12 weeks. The patient remained HCV-RNA negative, with normal liver function tests at the last follow-up visit, 6 months after treatment discontinuation.

To the best of our knowledge there is a single reported case of a living liver-donor with sustained liver dysfunction due to a new onset HCV infection without having undergone allogeneic transfusion (2).

We cannot exclude a potential acquisition during the postoperative course, although we believe the infection could have been acquired prior to surgery in the window period between initial evaluation and surgical procedures. Therefore, we suggest that every potential donor be tested for anti-HCV antibodies and HCV-RNA at the time of evaluation and immediately before donation. If HCV infection is detected, donation must be cancelled.

S. Gruttadauria[a,b], *D. Pagano*[a], *I. Petridis*[a], *G. Vizzini*[a], *R. Volpes*[a], *P. A. Grossi*[a,b,c] *and B. Gridelli*[a,b]
[a]Istituto Mediterraneo Trapianti e Terapie ad Alta Specializzazione–University of Pittsburgh Medical Center in Italy, Palermo, Italy
[b]Thomas Starzl Transplantation Institute, University of Pittsburgh Medical Center, Pittsburgh, PA
[c]Department of Infectious Diseases, University of Insubria, Varese, Italy

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