Liver Transplantation in a Patient With Human Immunodeficiency Virus and Coronavirus Disease 2019

TO THE EDITOR:

The coronavirus disease 2019 (COVID-19) pandemic has dramatically impacted the transplant community worldwide.[1-4] Uncertainty and a lack of treatment protocols have resulted in a considerable reduction in, if not cessation of, transplantations. Waitlist mortality remains high and problematic in this population. The optimal transplantation timing in infected candidates who have cleared the virus remains unclear.[1-5] We report the first case of a successful liver transplantation (LT) in a recipient in the United States who was previously infected with COVID-19 and had human immunodeficiency virus (HIV).

A 57-year-old female with coinfections of HIV (diagnosis in 1996, undetectable viral load) and decompensated hepatitis C virus (HCV) cirrhosis (diagnosis in 2004, treatment naïve) developed hepatocellular carcinoma in 2016 and was referred to our transplant center. Her HIV treatment included atazanavir (200 mg daily), emtricitabine-tenofovir alafenamide (200/25 mg daily), and ritonavir (100 mg daily). Contrast-enhanced magnetic resonance imaging revealed 2 (6.9 cm and 2.8 cm) lesions with alpha-fetoprotein (AFP) levels of 1172 μg/L and no evidence of extrahepatic disease. In September 2019, she was successfully down-staged to within the Milan criteria (MC) after undergoing 5 transarterial chemoembolization treatments, and her AFP level dropped to 10 μg/L at transplant listing.

On March 26, 2020, she reported 3 days of dyspnea, cough, and malaise and was diagnosed with COVID-19 based on nasopharyngeal swab polymerase chain reaction (PCR) samples and antibody testing (titer level 2880). Although she did not have identified direct contacts infected with COVID-19 leading up to her diagnosis, her community of East Harlem, NY, was significantly impacted by the pandemic, and we presume she contracted the virus through community spread. She denied having fevers and was oxygenating well on room air. A complete blood count and chest radiography did not show any abnormalities. Given the mild symptoms, she did not receive any treatments and was discharged in stable condition on March 31, 2020, with standard precautions. She tested negative on 2 consecutive swab samples (April 26 and May 22, 2020) and remained asymptomatic.

Given the detectable antibodies, negative molecular PCR, and asymptomatic status, we felt that transplantation would be safe with the benefits outweighing the risks. On May 28, 2020, she underwent LT without any perioperative complications. The donor was a COVID-19–negative 40-year-old female donor with active HCV who was brain dead from drug intoxication. Cold and warm ischemia times were 9.5 hours and 20 minutes, respectively. She required 6 units of packed red blood cells intraoperatively. Initial immunosuppression was with steroids: an initial dose of 500 mg of methylprednisolone tapered to prednisone (10 mg/day) together with mycophenolate mofetil (1 g twice daily) and tacrolimus to maintain a level of 10 ng/mL.

Pathology revealed moderately differentiated, partially necrotic lesions within MC with microvascular invasion. She had an uneventful recovery and was

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ready for discharge on day 7. She continues to do well 5 months posttransplantation.

The safe timing of LT after a COVID-19 infection is currently poorly understood. The risk of post–COVID-19 complications is only now being elucidated and seems reasonable once aviremic for those whose risk without transplantation is high.

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