Letter to the Editor

SARS-CoV-2 infection on the kidney transplant waiting list: Can a patient be transplanted after COVID-19?

Infección por SARS-CoV-2 en lista de espera de trasplante renal: ¿se puede trasplantar un paciente con antecedente de COVID-19?

Dear Editor,

The SARS-CoV-2 pandemic has had a very negative impact on kidney transplant (KT) programmes in our area. The high mortality rate among KT patients, particularly in the initial post-KT period, led to the suspension of activity in many centres during the first months of the pandemic. As transplant programmes have resumed, new issues have arisen. One of these is access to KT in patients with a history of SARS-CoV-2 infection. So far there are only two published cases, and none has been reported here in Spain. We present the case of a patient with a history of COVID-19 who subsequently had a KT.

This is a 70-year-old male, blood group A positive, with chronic kidney disease due to chronic tubulointerstitial nephritis, on regular haemodialysis. He was selected as a potential KT recipient on 09/07/2020. When he arrived at the hospital, he had a SARS-CoV-2 PCR protocol performed on nasopharyngeal exudate, obtaining a positive result with low viral load. The patient was asymptomatic and reported no contact with confirmed cases of COVID-19. Blood tests showed no abnormalities and no infiltrates were seen on chest X-ray. In view of the patient’s positive PCR result, the KT was ruled out and, in the absence of severity data, he was discharged for isolation at home.

The PCR was repeated 24 hours later, coming back negative. However, SARS-CoV-2 serology showed positive for IgG and negative for IgM. At that point, he was removed from the KT waiting list (WL) and a weekly PCR follow-up protocol was started. In order to reinstate the patient on the WL, it was decided to confirm negative PCR in 3 consecutive samples.

IgG became negative after two weeks (30/07/2020), while PCR results continued to be positive (Table 1). On 04/09/2020, he was put back on the WL, and on 13/09/2020, he was selected again as a possible KT recipient from a cadaveric donor. However, the PCR performed pre-KT was positive again, so he was ruled out and once again removed from the WL. The patient was finally reinstated on the WL on 09/10/2020 and received a KT from a cadaveric donor on 30/10/2020. He had a negative PCR on admission and in the subsequent repeat tests carried out routinely every 48 hours and then weekly during the post-KT period. At present he is doing well, with no SARS-CoV-2-related complications.

This is the first documented case in which positive PCR for SARS-CoV-2 was identified on admission of a patient as a potential KT recipient. Our patient was completely asymptomatic, which made it difficult to establish the time line of the infection. However, the viral load was low, there were no infiltrates on the chest X-ray and the serology was consistent with resolved or resolving acute infection according to Spanish Ministry of Health recommendations. Nonetheless, the mortality rate for SARS-CoV-2 infection in KT patients is high, especially in the immediate post-KT period. Data from the Spanish COVID-19 and KT registry suggest that the post-KT stage at the time of infection is a risk factor for mortality, so guaranteeing the patient is negative prior to KT is a priority for performing the procedure safely. For our patient, as PCR in nasopharyngeal exudate can give a false-negative result in 30-40% of cases, we could not be certain that the samples in which no RNA was detected were really negative or that in the positive samples, all that had been detected was virus gene fragments. Therefore, although we had no prior evidence to support the decision, to maximise safety, we decided that three consecutive negative PCR tests would be required before reinstating the patient on the WL.

Another potential issue was the risk of reinfection. Long-term immunity after SARS-CoV-2 infection is the subject of study as it could be transitory and the antibody titre tends to decrease over time. It has also been reported that the serological response of subjects who have had asymptomatic infection or only mild symptoms is shorter lasting, espe-
cially in patients with conditions such as chronic kidney disease, who are at greater risk of reinfection.7–9 Our patient, in whom the antibodies disappeared rapidly, is an example of this situation. Moreover, the threshold above which long-term immunity is generated has not yet been established.10

We therefore think it is important that patients with a history of COVID-19 who are KT recipients undergo very close monitoring by serial PCR for possible SARS-CoV-2 reinfection.

In conclusion, a history of COVID-19 should not contraindicate KT, but we believe that negative PCR should be confirmed by repeated tests before and after the procedure to guarantee the safety of the transplant patient.

REFERENCES


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