

Post-transplant HLA donor-specific antibodies monitoring in kidney transplant recipients with pre-transplant donor-specific antibodies – case report

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Introduction

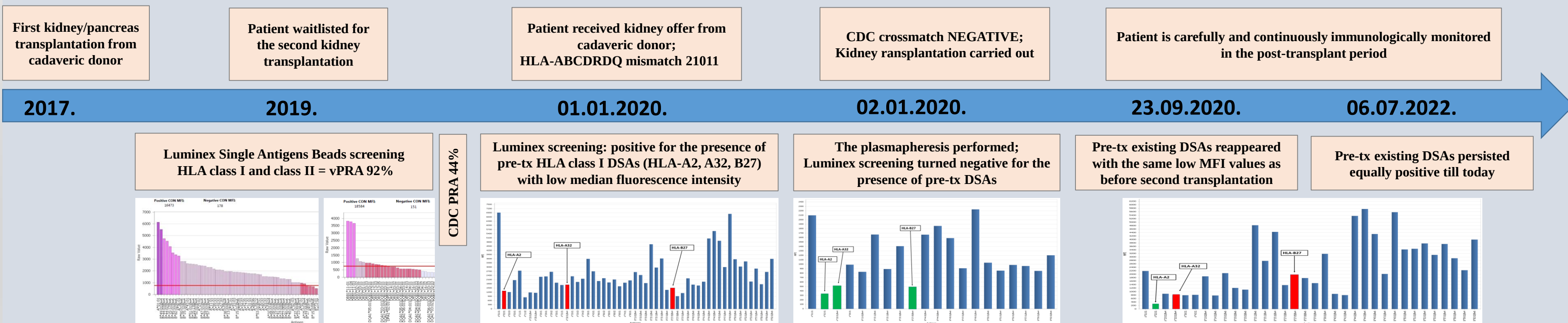
Pre-transplant donor-specific antibodies (pre-tx DSA) are associated with an increased risk of antibody-mediated rejection (AMR) and allograft loss. Following transplantation (tx), the level of DSAs may increase, decrease, remain persistent or be completely cleared from the recipient's blood. Recipients should be carefully and continuously monitored in the post-transplant period.

Background

The patient was a 46-year-old male waitlisted in September 2019 for the second kidney tx. The presence of HLA antibodies detected with the Luminex Single Antigens beads method for HLA class I and class II antibodies showed that the patient was highly immunized, with a highest virtual panel of reactive antibodies (vPRA) of 92%. The complement-dependent cytotoxicity (CDC) PRA at the time of tx was 44% pointing to the presence of cytotoxic complement binding HLA class I antibodies.

Results

In January 2020, the patient received kidney offer from cadaveric donor. The donor/patient ABCDRDQ mismatch was 21011, with Luminex results positive for the presence of pre-tx HLA class I DSAs with low median fluorescence intensity (MFI: 1300-1700). The CDC crossmatch was negative, excluding the presence of cytotoxic HLA class I DSAs. The plasmapheresis was performed and Luminex test results turned negative for the presence of pre-tx DSAs. The tx was carried out and the patient continued to be carefully immunologically monitored. Seven months after tx, the pre-tx existing DSAs reappeared with the same low MFI values as before tx and persisted equally positive till today. The kidney function is stable, without the episodes of AMR.



Conclusion

The decision about performing transplantation with pre-tx donor-specific HLA antibodies present should be made carefully and detailed pre-tx and especially post-tx DSA monitoring are important to improve individual risk stratification for kidney allograft loss.