

Featured Case Study:

Transplant assessment in the age of COVID-19

Transplant patients are at an increased risk of severe COVID-19 infection due to immunosuppression and other comorbidities. Surveillance with dd-cfDNA provides a non-invasive option and may alert to an issue with an allograft, triggering prompt investigation. There is mounting evidence that background cfDNA levels become elevated during infection.¹⁻³

Patient History:

60 year old, black female with cerebral palsy in a long term care facility

Experienced end-stage renal disease, secondary to hypertension

Received a deceased donor kidney transplant

Received envarsus and myfortic



The Journey:

- 8.6 months post-transplant, patient contracted a fever and sent to the local emergency department, where she was diagnosed with COVID-19
- Otherwise clinically stable so stayed in the COVID ward within the long term care facility

Clinical Assessment with Prospera:

- 15 days later, she returned to the hospital with mildly elevated creatinine
- **Prospera test showed a result of 0.12% dd-cfDNA with high background cfDNA levels of 18.1x the median**

- Myfortic was halted but continued on prednisone
- Discharged seven days later with normal renal function

- **60 days later, a subsequent Prospera test revealed a 0.43% dd-cfDNA result with background cfDNA levels of 1.1x the median**

Key Takeaway: COVID-19 may cause very elevated levels of background cfDNA. Therefore patients are at-risk for false negative interpretation, which is especially concerning with immunosuppression reduced in response to the infection. Prospera proactively alerts the physician if a result may yield a false negative in a high-risk patient.

Exploratory Questions:

- Do you have patients with COVID-19 who might benefit from Prospera?
- How have you managed immunosuppressive therapies in your kidney transplant patients who have COVID-19?
- What might you do differently after reading this case study?

References:

- 1 Ahmed A, et al (2016). Clin Lab., 62(12):2395-2404
- 2 Natera data on file, 2020
- 3 Bunnapradist, S., Schenman, J., Lum, E.L., Gauthier, P.M., Ahmed, E., Billings, P.R. (2020, October). Case study: Kidney transplant patient with COVID-19: Impact of viral infection on background cell-free DNA in a donor-derived cell-free DNA rejection assay. Poster presented at American Association of Nephrology Kidney Week 2020. <https://www ASN-online.org/education/kidneyweek/>