

Transcript Details

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4 Keys to Performing Acute Dialysis Procedures in COVID-19 Patients

Dr. Matt Birnholz:

Coming to you from the ReachMD studios, this is *COVID-19: On the Frontlines*. I'm Dr. Matt Birnholz. On today's program, we caught up with Dr. Anil Agarwal, Professor of Medicine and Chief of the Section of Nephrology at the Ohio State University Wexner Medical Center East. Dr. Agarwal shared some best practices for intensivists and vascular access teams at the forefront of this pandemic to protect vascular integrity during acute dialysis procedures.

Here's what Dr. Agarwal had to share with us.

Dr. Agarwal:

The very first, most important part of this is having a good functioning access, and for the access you have to make sure that there's no kinking of the catheter or even the tubing of the circuit. You have to pay prompt response to any alarms to make sure there's no stagnation. Use a larger bore catheter if you can. A tunneled or softer catheter might be even better, although placing a tunneled catheter in a patient with COVID, taking them to the radiology suite is also problematic from the infectious diseases standpoint.

It is very important to choose a good site and good size of the catheter. I must emphasize a proper length of the catheter is very, very important. If you are using, for example, a right internal jugular vein for a catheter placement, it should be at least 15–20 cm in length so that you can get to the upper part of superior vena cava, so you can have good blood supply from there. Similarly, on the left internal jugular site, because the length has to be longer, it should be at least 20–24 cm in size. For the femoral veins, it has to be more like 24–30 cm in size, and rarely if you have to go to subclavian, it should be at least 20 cm in size. We prefer the IJS, internal jugular site, especially on the right-hand side. The left side it doesn't work as well. Femoral is complicated by more likelihood of infection, but sometimes you have to go there.

After the access has been dealt with, it is also important to have a good-sized larger diameter fiber size of the dialyzer if you can help that, and prime it with heparin, because most of the time when you prime the fibers with heparin, the dialyzer life is longer, and you have to keep the blood-air contact to minimum and avoid any turbulence.

Finally, the other non-anticoagulant measure is to have the right prescription. Use a higher blood flow and keep the ultrafiltration rate to minimum so that you can keep a lower filtration fraction, because when you filter more, the hemoconcentration at the end of the dialyzer is much higher, and that is, perhaps, the most important reason why the filters clot. Also, it is important to have a higher blood flow and higher flow of the dialysate and the replacement fluid. And sometimes giving the replacement fluid prefilter will also help you not clot even though you will reduce the clearance a little bit by diluting the blood, but then at least you will not have that much clotting of the filter.

Dr. Matt Birnholz:

That was Dr. Anil Agarwal from the Ohio State University Wexner Medical Center East. To access more episodes from *COVID-19: On the Frontlines*, and to add *your* perspectives toward the fight against this global pandemic, visit us at ReachMD.com and become Part of the Knowledge. Thank you for listening.