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**"Evaluating Outcomes in COVID-19 Patients with New Onset Renal Failure Requiring Urgent Hemodialysis"**


According to the Louisiana Department of Health, almost 20% of COVID-19 deaths had underlying chronic kidney disease. The progression of the disease and optimal treatment algorithm of COVID-19 has not yet been fully elucidated. Renal replacement therapy has emerged as a supportive measure for critically ill COVID-19 patients who have previously never been on dialysis. However, there is currently a stark paucity of literature related to the initiation of renal replacement therapy (RRT). Determining the utility and timing of hemodialysis catheter placement and dialysis initiation has great potential to improve management of COVID-19 patients.


We will evaluate critically ill COVID-19 patients who have had hemodialysis catheter placement at University Medical Center New Orleans (UMCNO) and West Jefferson Medical Center (WJMC). We hypothesize that there are only select groups of COVID-19 positive patients who benefit from hemodialysis and need catheter placement. We will identify the group of COVID-19 patients who improved with hemodialysis and split the discharged patients into those who had a short and long length of stay. We will evaluate if there are commonalities/predictors of the COVID-19 patients who improved with dialysis and those who did not improve with dialysis. Once the patients have been identified, retrospective data will be collected from 03/09/20 to present and prospective data will be collected until 07/30/20.


After the patients have been categorized based on outcome, they will be analyzed for any trends in labs, imaging, timing, catheter placement, etc. using SPSS statistical software. The data analysis will be performed mid-way through the collection period and again at the end of the collection period. If there are not enough cases to sufficiently power the study, data will be collected for additional time according to the number of cases needed and the rate of COVID-19 hemodialysis catheter placement at the end of July.


We will use the findings we obtain from this study to construct an algorithm that models ideal catheter use within our patient sample. The algorithm can inform guidelines for RRT of COVID-19 positive patients and better guide future practice in this patient population.