Model predicts acute kidney injury requiring dialysis in patients with COVID-19

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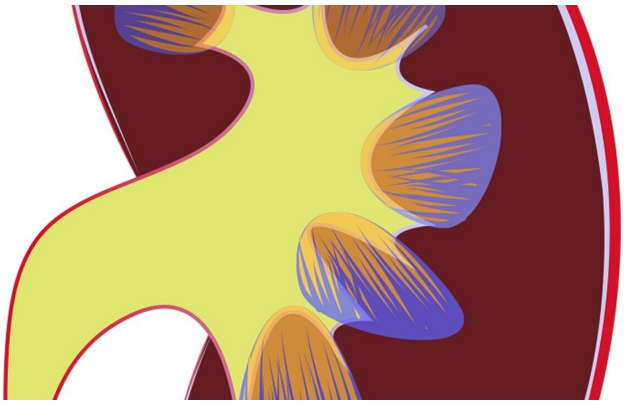

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A new artificial intelligence-based algorithm may help clinicians predict which patients with COVID-19 face a high risk of developing acute kidney injury (AKI) requiring dialysis. The research will be presented online during ASN Kidney Week 2020 Reimagined October 19-October 25.

Preliminary reports indicate that acute AKI is common in patients with COVID-19. Using data from more than 3,000 hospitalized patients with COVID-19, investigators at the Icahn School of Medicine at Mount Sinai trained a model based on machine learning, a type of artificial intelligence, to predict AKI that requires dialysis. Only information gathered within the first 48 hours of admission was included, so predictions could be made when patients were admitted.

The model demonstrated high accuracy (AUC of 0.79), and features that were important for prediction included blood levels of creatinine and potassium, age, and vital signs of heart rate and oxygen saturation.

"A machine learning model using admission features had good performance for prediction of dialysis need. Models like this are potentially useful for resource allocation and planning during future COVID-19 surges," said co-author Lili Chan, MD, MS. "We are in the process of deploying this model into our healthcare systems to help clinicians better care for their patients."

More information: Study: "Machine Learning for Predication of Severe Acute Kidney Injury in Hospitalized Patients with COVID-19"

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