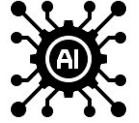


Case1B Transcript



#Slide1

This is the second part of the first case on a COVID-19 severity prediction algorithm. Please view the first part before continuing.

#Slide2

After the COVID-19 severity prediction algorithm had been in use for some time, an independent validation study was performed on it. A cohort of 369 patients with COVID-19 over 392 hospitalizations were used to analyze how the algorithm performed in predicting adverse events including the need for ICU level care, mechanical ventilation, and in-hospital death. This study also assessed how much time the algorithm provided clinicians before the adverse event occurred.

#Slide3

Patients with a severity score of 68.8 or higher out of 100 had a 74% probability of experiencing an adverse event, with a sensitivity of 39%. This occurred in 14% of the total cohort. With an alert based on this threshold, for every 1.4 patients that generate an alert, 1 patient would deteriorate. The median lead time from when the threshold score was first exceeded until the adverse event happened was 24 hours. No thresholds were identified in the study that provided both a high positive predictive value and a high sensitivity. 10% of the patients identified by the algorithm as low risk may ultimately still have an adverse event. The majority of patients have a maximum severity score in the intermediate risk range, which provides neither concern nor reassurance. Because the severity score was calculated at 15-minute intervals using only the most recent value for each of the factors, there were wide fluctuations in the scores.

#Slide4

With this new information about the COVID-19 severity prediction algorithm, answer at least one of the following questions linked below the case video...

Does this study change your initial impression of how to interpret the results of the algorithm and, if so, how?

Is this algorithm useful in real clinical practice and why or why not?