

**Table 1.**

No. of patients	Overall	323
	First-time visits	175
	Follow-up visits	148
Mean age		70 years (38–92)
Sex	Males	110 (63%)
	Females	65 (37%)
Average eGFR (CKD-EPI)	At first consultation	43 mL/min/1.73 m <sup>2</sup>
	at follow-up visit	36,5 mL/min/1.73 m <sup>2</sup>
CKD stage	Stages I and II	30 (17%)
	Stage IIIA	32 (19%)
	Stage IIIB	67 (39%)
	Stage IV	36 (21%)
	Stage V	7 (4%)
Active oncological therapy	Yes	82 (47%)
	No	93 (53%)
Type of oncological therapy	Cytotoxic chemotherapy	18 (22%)
	Molecularly targeted agents	25 (30%)
	Immunotherapy	22 (27%)
	Hormone therapy	8 (10%)
	Combination of drugs of multiple classes	9 (11%)

**MO145 CHEST CT TOTAL SEVERITY SCORE ON ADMISSION TO PREDICT IN-HOSPITAL MORTALITY IN PATIENTS WITH ACUTE AND CHRONIC RENAL IMPAIRMENT WITH COVID-19 INFECTION**

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**BACKGROUND AND AIMS:** COVID-19 is an infection that has spread widely and quickly over the world, resulting in a pandemic with substantial consequences for the sociopolitical environment and healthcare delivery systems. The aim of this study was to explore the clinical, laboratory characteristics and chest CT severity score in patients with renal impairment who died with COVID-19 infection.

**METHOD:** This retrospective study examined the electronic clinical and laboratory data of consecutive patients aged 18 years and older, with serum creatinine > 2 mg/dL who tested positive for COVID-19 and admitted to Mansoura University Hospital between June 2020 and May 2021. CT scans of the chest were retrospectively examined by one reviewer with 10 years' experience in thoracic imaging for the following characteristics based on the Fleischner Society Nomenclature recommendations: ground-glass opacity (GGO), consolidation, nodules, crazy-paving pattern, subpleural lines, bronchial wall thickening, lymph node enlargement and pleural effusion.

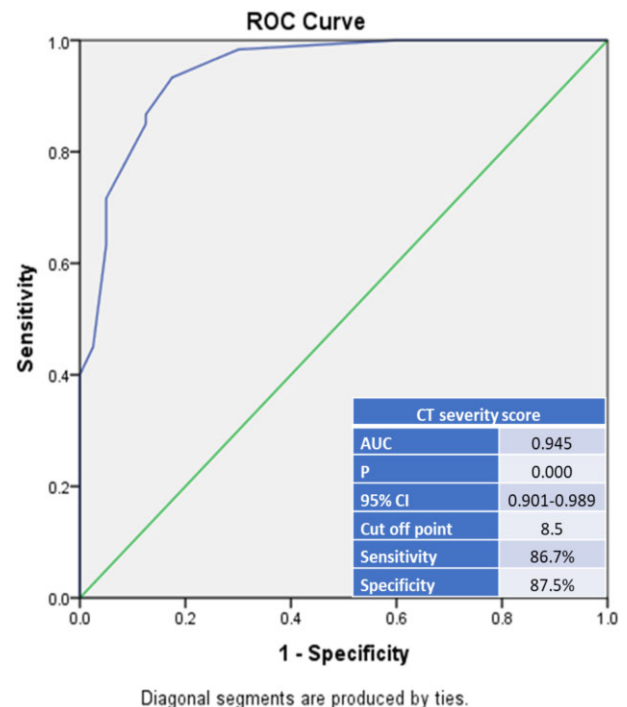
We attempted to measure the magnitude of the abnormalities by the total severity score to assess the severity of lung parenchymal involvement. The total severity score was primarily a numeric score that assessed the existence of GGOs, consolidation or mixed GGOs in each of the five lobes of both lungs. Each lobe will be rated from 0 to 4 points based on the percentage of the involved lobe: (0) = 0%, (1) = 1–25%, (2) = 26–50%, (3) = 51–75% or (4) = 76–100%. The overall score, which varies from 0 to 20, is the sum of the points from each lobe. Death events were collected, and the ROC curve analysis for CT severity score was used to determine the best cutoff that predict mortality.

**RESULTS:** Of a total 100 patients, 54 were males, with a mean age of 60 ± 15 years. Sixty patients died. Mortality was higher in those with acute renal impairment ( $P = .033$ ) than chronic kidney disease. Non-survivors had higher respiratory rate ( $P = .000$ ), C-reactive protein (CRP) ( $P = .003$ ), ICU admission ( $P = .000$ ), oxygen supply needs ( $P = .005$ ), pulmonary consolidation ( $P = .000$ ) and crazy paving pattern ( $P = .000$ ). Furthermore, non-survivors had higher CT chest total severity score ( $P = .000$ ).

Univariate regression analysis showed increasing odds of in-hospital mortality associated with increased respiratory rate (OR 1.149, 95% CI 1.057–1.248,  $P = .001$ ), total bilirubin (OR 2.532, 95% CI 1.099–5.836,  $P = .029$ ), lactate dehydrogenase (OR 1.001, 95% CI 1.000–1.003,  $P = .018$ ), CRP (OR 1.010, 95% CI 1.002–1.017,  $P = .012$ ),

invasive mechanical ventilation (OR 7.667, 95% CI 2.118–27.755,  $P = .002$ ), predominant pattern of pulmonary consolidation (OR 21.714, 95% CI 4.799–98.261,  $P = .000$ ) and high CT chest total severity score (OR 2.082, 95% CI 1.579–2.745,  $P = .000$ ). The optimum cut-off value of CT chest total severity score to predict in-hospital mortality was 8.5 with a sensitivity of 86.7% and a specificity of 87.5% (Figure 1).

**CONCLUSION:** In-hospital mortality is high in patients with renal impairment with COVID-19 infection especially those with acute renal impairment. High bilirubin, predominant pattern of pulmonary consolidation and CT chest total severity score are the most significant predictors of mortality in these patients. CT chest total severity score on admission  $\geq 8.5$  could effectively predict in-hospital mortality in these patients.



**FIGURE 1:** ROC curve for CT chest total severity score sensitivity and specificity to predict mortality in patients with renal impairment with COVID-19 infection.