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Opinion

COVID-19: Recent Updates

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Severe viral respiratory tract infections are usually accompanied by pneumonia, followed by the Acute Respiratory Distress Syndrome (ARDS).

Clinicians in RuiJin Hospital in Shanghai, China, formulated the MuLBSTA Score [1] to determine severity of viral pneumonia and its accompanying mortality. This score helps determine the potential mortality in patients with viral pneumonia.

In this scoring system, multiple parameters are used and a score is assigned to each. Then, the collective score predicts the mortality in these patients. The higher the overall score, the higher is the predictive mortality.

The clinical signs and the scores for each are as follows:

- Multilobar infiltrates: 5
- Lymphocytes < 0.8: 4
- Bacterial coinfection: 4
- Active smoker: 3
- Quit smoking: 2
- Hypertension: 2
- Age > 60: 2.

The predictive mortality was then derived as follows:

- 0 points: 0.47% chances of dying from viral pneumonia
- 6 points: 2.9%
- 12 points: 15%
- 22 points: > 69% chance of dying from the infection.

This score has subsequently been used by doctors at the Wuhan Jinyintan Hospital while treating COVID-19 patients.

A study involving 99 patients with severe pneumonia and COVID-19 infection was conducted.

The mean age of these patients was 55 years and 67% were males. 50% of these patients had accompanying co-morbidities. Majority of these patients had fever, cough and shortness of breath. 17% of these patients developed ARDS during the course of treatment while 11% died.

Using this score, Chen., *et al.* [2] were able to confirm that this scoring system indeed helped in predicting the mortality rates for COVID-19 infections, with a fair degree of accuracy at their hospital.

In another study, two hospitals in Wuhan, China, examined 191 patients with COVID-19 [3]. 137 of these patients recovered, while 54 died.

One important finding that emerged from this study was that presence of comorbidities played an important role in determining the clinical course in these patients. 48% of these patients had comorbid conditions. This included hypertension in 30%, followed by diabetes in 19% and coronary heart disease in 8%.

A close study of these patients also revealed the determining factors for mortality in COVID-19 patients.

The most important risk factors for mortality in these patients were as follows:

- Older age
- Higher "Sequential Organ Failure Assessment" (SOFA score)
- Raised d-dimer level > 1 microgram/ml.

It was determined that age-related reduction in the function of T-cells and B-cells, as well as increased production of type 2 cytokines may have led to a reduced capacity to control viral replication, which consequently may be the underlying cause of death in older patients with COVID-19.

The d-dimer test is normally a good indicator of increased blood coagulation. In this cohort of patients, 90% of patients with pneumonia had increased coagulatory activity, which made the d-dimer test a useful indicator for determining the severity in these COVID-19 patients.

Another important finding was that RNA from SARS-COV-2 could be detected for 20 days in patients who recovered, and until the time of death in those who succumbed to COVID-19.

COVID-19 is fast evolving and new findings and developments are happening on a near-daily basis.

Hence, it is important to keep updated with the latest development, in order to successfully overcome this pandemic at the soonest possible.

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