

Oral Session:

Characteristics and Risk Factors Associated with Severe Coronavirus Disease 2019 (COVID-19), Taiwan, January–June 2020

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Background:

COVID-19 has caused more than 2.4 million deaths globally. Early identification of patients at risk of severe COVID-19 is important for prevention and resource allocation. We aimed to describe characteristics of COVID-19 in Taiwan and identify risk factors associated with severe disease.

Methods:

Public health authorities investigated patients tested positive for SARS-CoV-2 using RT-PCR within 24 hours and collected patients' demographics, symptoms, comorbidities, and epidemiological information. All COVID-19 patients were hospitalized for isolation and treatment. We monitored their clinical courses and recorded outcomes at COVID-19 clinical database. We enrolled COVID-19 patients aged ≥ 20 years who were diagnosed during January to June 2020. We defined severe cases as COVID-19 patients who had severe pneumonia or acute respiratory distress syndrome based on WHO criteria. We reviewed investigation reports and clinical database. We conducted univariate and multivariate analyses to identify risk factors associated with severe cases.

Results:

Of the 422 COVID-19 patients, 213 (50%) were male. The median age was 33 (IQR, 25 – 51) years. We identified one or more comorbidities in 104 (25%) patients; cardiovascular disease ($n = 42$, 10%) was the most prevalent comorbidity. Thirty-eight (9%) were severe cases and seven (1.7%) died. Severe cases were significantly older than patients with mild illness (median age, 61 vs. 31 years, $p < 0.05$). Univariate analyses adjusted for age showed severe cases were more likely to have fever (aOR: 4.3, 95% CI 1.9 – 9.9) and comorbidities (aOR: 5.3, 95% CI 2.2 – 12.9). In multivariate analyses, fever (aOR: 4.0, 95% CI 1.7 – 9.5) and cardiovascular disease (aOR: 5.6, 95% CI 2.2 – 14.1) were associated with severe cases.

Conclusions:

COVID-19 patients with older age, fever and cardiovascular disease were prone to develop severe disease. We recommended implementing targeted prevention and control measures, including vaccine prioritization, early identification and treatment for these populations.