

中文題目：新冠肺炎死亡案例探討- 某醫學中心回溯性研究

英文題目：Analysis of Mortality Cases of COVID-19 Patients in a Medical Center of Taiwan: A Retrospective Study

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## **Introduction**

The novel coronavirus was first reported in Wuhan city, China in December 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 ( SARS-COV-2 ) and severely impacted our healthcare system. Till now, with more than 15 thousand confirmed cases and 898 died in Taiwan. Bacterial coinfection and secondary infection, defined as infection within 48 hours, and > 48 hours of hospitalization, respectively. These infections were commonly seen in viral respiratory infection such as influenza. However, the information concerning the prevalence of co-infection, or secondary-infection in SARS-COV-2 patients were relatively lacking.

## **Purpose :**

This retrospective study aimed to analyze the mortality cases of SARS-COV-2 and to identify the risk factors, common bacterial pathogens in these individuals.

## **Methods :**

We collected 36 mortality cases in a medical center of Taiwan with real time polymerase chain reaction (RT-PCR) - confirmed SARS-COV-2. The patient were subdivided into two groups by hospitalization length of stay (LOS) as < 7 days (n=9), and > 7 days (n=27). We compared the demographic, laboratory, comorbidities and microbiologic results from medical records.

## **Results :**

We assessed 36 mortalities with SARS-COV-2 infections at our hospitals who had died during this outbreak. Of these, 20 (55.5%) were men and the median age was 76 (Standard deviation, SD 63-89) years; Comorbidities such as hypertension, coronary artery disease and chronic kidney disease are more likely to be found in the group with LOS > 7days . The laboratory data of victims with LOS ( > 7 days ), elevated CPK (Creatine-phospho-kinase) (P<0.001), lactic acid dehydrogenase (LDH) (P=0.05), and decreased albumin (P <0.01) were also seen. The microbiology of bacterial co-infection within 48 hours of hospitalization (table 3) are 13 bacteria (39.3%,mostly E.coli) and 20 (60.7%) fungi (mostly candida species), respectively.

By contrast, pathogens of secondary infection are 16 bacteria (51.6%, mostly *Stenotrophomonas* and *Acinetobacter* species), 1 *Aspergillus* (3.2%) and 14 (45.1%) *Candida* species.

**Conclusion :**

Elevated CPK and LDH are more common seen in early mortality (< 7 days) group, but relative low albumin, old age are more common seen in late mortality (>7 days) group. Of note, the *Candida* infection is predominant in both co-infection and secondary infection of these mortalities.

**Key words :** Bacterial infections, Co-infection, Secondary infection, COVID-19, Severe acute respiratory syndrome coronavirus 2 ( SARS-COV-2), laboratory markers