Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
Dear Editor:

Several cases of new atypical pneumonia were reported since Dec 8, 2019 in Wuhan, Hubei province, China. A novel beta-coronavirus was identified by the Chinese Centre for Disease Control and Prevention from the throat swab sample of a patient, that was subsequently named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) by the World Health Organisation (WHO) on 11 February 2020 [1]. Prior to this only two mutant strains of coronaviruses have caused outbreaks of severe acute respiratory disease worldwide; one is severe acute respiratory syndrome coronavirus (SARS-CoV), in 2003, while the other is the middle east respiratory syndrome coronavirus (MERS-CoV), in 2012.

We analysed the clinical picture of the first ten coronavirus disease (COVID-19) cases in Taiwan till 31 January 2020, and compared them to SARS in terms of epidemiology, symptoms, laboratory characteristics, and outcome.

During the SARS outbreak from 25 April-19 May 2003, 50 patients visited our emergency department [2], 21 with suspected SARS, and 29 with probable SARS (33 women, 17 men). The age of the patients ranged from 5 to 90 years, with a mean age of 36.6 years, which was around 20 years younger than the patients with COVID-19.

Women were more susceptible to SARS (M: F=0.52: 1), unlike the COVID-19 outbreak in Wuhan. (M: F = 1.3: 1) [3]. The gender and age relationship between COVID-19 and SARS is shown in Fig. 1.

In a previous report, among 425 patients with novel coronavirus-infected pneumonia, the median age was 59 years, and 56% were male [3]. In another report from China, as of 24 January 2020, among the hospitalised COVID-19 patients, 73% were male and the median age was 49 years; 32% had underlying diseases such as diabetes mellitus, hypertension and cardiovascular diseases [4].

The first ten SARS-CoV-2 infected patients from Taiwan (7 females and 3 males) were isolated and treated in negative pressure single room. The median duration from initial symptoms to confirmed diagnosis was 4.2 ± 2.9 days. The most common symptoms were cough (60%), fever (50%), flu symptoms (40%), rhinorrhea (30%), and infiltrations in chest X rays (30%); less common symptoms were muscle ache (10%), sore throat (10%), and shortness of breath (10%). Half the patients had mild flu-like symptoms, possibly because of the lower viral load in the environment.

Hypoalbuminemia in probable SARS cases reaches statistical significance, and can be utilised with reverse A/G ratio to distinguish SARS patients earlier (Table 1). There are no reports yet to prove an association between COVID-19 and hypoalbuminemia.

The epidemic situation of COVID-19 is rapidly changing with each passing day. Until 31 January 2020, the mortality rate for hospitalised COVID-19 patients was approaching 14–15% [4]. A report dated 25 January 2020 described the median age in mortality cases as 75 years. Fever and cough were the common symptoms in deaths [5]. The estimated case fatality rate of SARS was 17.2%, which was slightly higher than that in COVID-19 (14–15%) [6].

From our data we know that COVID-19 affects males more, unlike SARS, which is predominant in females. The COVID-19 patients are around 20 years older than the patients with SARS. Young adults are more susceptible to SARS than children and the elderly. Reverse A/G ratio and hypoalbuminemia are noted in SARS patients. Overall, a longer observation period is needed to study the SARS-CoV-2 outbreak.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

We thank staffs in MacKay Memorial Hospital, Taipei, Taiwan, all medical staff in Taiwan and around the world for fighting against SARS in 2003 successfully and struggling to face epidemic COVID-19 now.
Table 1
Hypoalbuminemia is noted in probable SARS patients with significant statistical difference.

|                      | Probable SARS (29 cases) | Suspect SARS (21 cases) | All             | P value, 2-tailed |
|----------------------|--------------------------|-------------------------|-----------------|-------------------|
| Age (years old)      | 35.9 ± 13.4              | 20.0 ± 4.4              | 36.6 ± 16.3     | 0.208             |
| Albumin (gm/dL)      | 3.2 ± 0.7                | 3.6 ± 0.4               | 3.33 ± 0.6      | 0.037*            |
| A/G ratio            | 1.1 ± 0.3                | 1.2 ± 0.2               | 1.1 ± 0.2       | 0.389             |

(* indicates p < .05).

References

[1] WHO. Clinical management of severe acute respiratory infection when Novel coronavirus (nCoV) infection is suspected: interim guidance. https://www.who.int/internalpublications-detail/clinical-management-of-severe-acute-respiratoryinfection-when-novel-coronavirus-(ncov)-infection-is-suspected; Jan 11, 2020 (accessed Jan 20, 2020).

[2] World Health Organization. Case definitions for surveillance of severe acute respiratory syndrome (SARS) Available athttp://www.who.int/csr/sars/casedefinition/enhttps://doi.org/10.1080/22221751.2020.1719902.

[3] Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, et al. Early transmission dynamics in wuhan, China, of novel coronavirus-infected pneumonia [published online ahead of print, 2020 Jan 29]. N Engl J Med 2020. https://doi.org/10.1056/NEJMoa2001316.

[4] Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China [published online ahead of print, 2020 Jan 24]. Lancet 2020;S0140-6736(20):30183-5. https://doi.org/10.1016/S0140-6736(20)30183-5.

[5] Wang W, Tang J, Wei F. Updated understanding of the outbreak of 2019 novel coronavirus (2019-nCoV) in Wuhan, China [published online ahead of print, 2020 Jan 29]. J Med Virol 2020. https://doi.org/10.1002/jmv.25669.

[6] Leung GM, Hedley AJ, Ho LM, Chau P, Wong IOL, Thach TQ, et al. The epidemiology of severe acute respiratory syndrome in the 2003 Hong Kong epidemic: an analysis of all 1755 patients. Ann Intern Med 2004;141(9):662–73. https://doi.org/10.7326/0003-4819-141-9-200411020-00006.

Yu-Jang Su∗

Poison Centre, Emergency Department, Mackay Memorial Hospital, Taipei, Taiwan

Department of Medicine, Mackay Medical College, New Taipei City, Taiwan

E-mail address: yjsu.5885@mmh.org.tw.

Yen-Chun Lai

Department of Anaesthesiology, Musoon Women’s Clinic, Taipei, Taiwan

∗ Corresponding author. No. 92, Sec 2, North Chung Shan Rd, Taipei, 10449, Taiwan.