To Be or Not to Be: Early Protection of Healthcare Workers with Facial Mask from the Attack of Novel Coronavirus (COVID-19)

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Editorial

In October, 2019, 'No Mask Campaign' was launched by one of the three most famous and tertiary central hospitals in Wuhan, to promote eye and facial expression communication with patients in flu season, which was followed as a practice standard by other hospitals in the city [1]. Two months later, it came the uncontrolled outbreak of COVID-19. It is reasonable to ask the question: Whether inadequate use of facial mask, the traditional personal protective equipment, contributed to the tragedic widespread of this novel coronavirus infection.

The story of coronavirus 'whistleblower' Dr. Li Wenliang may suggest us something about the transmission of the novel virus. Dr. Li was an ophthalmologist at Wuhan Central Hospital. He was not an infectious diseases specialist. How did he get infected by this coronavirus?

As he said in an interview: 'An 82-year-old female patient was admitted on January 8th who was diagnosed with acute angle-closure glaucoma. I was her ophthalmologist and I did examine her without facial mask, as my routine. The next day, her intraocular pressure returned to normal, but she developed new onset of fever. A chest Computed Tomography (CT) was done on January 10th which showed ground glass-like lesion involving both lungs, so diagnosis of viral pneumonia was in concern. Other common viral infections, Mycoplasma and Chlamydia infections had been ruled out. At that time, there was no kit for COVID-19 except Next Generation Sequencing (NGS). She was not diagnosed as COVID-19 pneumonia'.

Dr. Li began to have cough by January 10th, and started to have fever on January 11th. Later on his condition got worse and was hospitalized on January 12th and then admitted to the intensive care unit. February 1st a nucleic-acid test showed positive for the COVID-19 virus. He died at the age of 34 on February 7th.

It was reported that at least two other doctors from Ophthalmology Department of Wuhan Central Hospital were expired due to COVID-19 infection, subsequently.

The extraordinary contagiousness of COVID-19 is documented in recent publications. It is reported that an asymptomatic COVID-19 carrier with normal laboratory and chest CT, who was tested positive 18 days after leaving Wuhan, causes a family cluster of 5 patients with fever and respiratory symptoms [2]. It is also reported that less than half (43.8%) of patients have fever at the time of consultation [3].

Some healthcare providers from Emergency Department and Respiratory Department realized the seriousness of the problem first and put on masks collectively, while other departments did not follow. Aifen, Director of Emergency in Wuhan Central Hospital, confirmed in an interview with China news weekly that she asked for all emergency staff in this hospital to wear N95 masks in January 1st. It turned out that this saved them all.

By February 11th, 1,716 medical staff was diagnosed as RNA tested positive COVID-19 pneumonia in China, of which, 1102 in city of Wuhan [4]. In one major tertiary hospital, by January 28th, 2019, 57 (41.3%) of 138 hospitalized cases were nosocomial, with 40 cases as healthcare workers [5]. As a comparison, more than 40,000 physicians and nurses were recruited throughout China to help fight the virus at the end of January, by far, nobody of them was infected under the personnel protection precaution protocol.

'It's not a coincidence' said a doctor from Shanghai Hospital now help in Wuhan for more than

Four weeks. At the time of submission, Italy just passed the law to approve voluntary use of facial mask by citizens. We hope this, along with experience in China, can help other involved countries to make decision to promote early protections of their healthcare workers from the fulminant COVID-19.

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