

Issue 21

Novel coronavirus, the possible end of the epidemic

Wednesday, March 18

Hello.

This is Kohno Shigeru from Nagasaki University.

Today is the last issue regarding my discussion with the Dean of the Institute for Tropical Medicine, Prof. Morita Kouichi.

We cannot predict the future of the novel coronavirus infection (COVID-19) at all. I think there are three scenarios that can be expected.

1. Complete containment like SARS (Severe Acute Respiratory Syndrome)
2. Occasional recurrence of epidemics where the virus infects animals around us like MERS (Middle East Respiratory Syndrome)
3. Seasonal occurrence of epidemics like influenza where the virus circulates in human society

In general, when a new infection occurs in human populations, there is no specific immunity to the pathogen. If effective measures are not taken, the infection spreads widely across a certain percentage of the population, then ends. The H1N1 influenza is one example of this type. Because we have no immunity to the novel coronavirus, if nothing is done the infection will continue to expand throughout the world, that is a “pandemic”.

What can be done? Taking SARS as an example, the source of transmission was typically those who were severely ill. SARS could be contained by the end of June by isolating both patients with severe pneumonia and those who came in contact with infected people. In Vietnam, where Nagasaki University has a research station, there were many SARS cases reported and a national response was quickly developed. By early April the virus was successfully contained even before PCR was implemented. On the other hand, the novel coronavirus can be spread by those infected without symptoms or with mild symptoms. It is like a continuing battle with an invisible enemy. The only thing you can rely on is the results of PCR testing. For this reason, tactics that worked with SARS will not work with the coronavirus. The disruption and medical collapse in Wuhan are not a concern for only China.

However, it's not all bad news. At the end of February, the World Health Organization

(WHO) released a report on China (55,924 cases); the epidemic peaked at the end of January and by mid-February the incidence of new cases decreased significantly.

This decrease is strong evidence that the more than 10 containment measures implemented by the Chinese government had some positive effects. The impression is that all possible measures were implemented: the improvement of PCR tests, tracing and isolation of those infected and their close contacts, the prohibition of public gatherings, school closures, etc. As a result, the number of patients dropped dramatically. In Japan where the virus is predicted to spread, I think it is an important time to take up all possible measures to stop the epidemic.

Coronavirus generally becomes more unstable as the temperature rises. When summer starts windows will be opened and buildings will be easy to ventilate, which may slow the spread of the virus. Therefore, I think it is too early to give up the containment measures now.

In April new students will enter our university. Nagasaki University is carefully monitoring the domestic and international situation. I think it will be necessary to respond with flexible means to maintain our normal education and research efforts.