



Emerging and Reemerging Infectious Diseases, Region of the Americas

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Outbreak of SARS in China

Sequence of Events, 2004

The first case reported to WHO on 22 April involved a 20-year-old nurse who developed symptoms compatible with the illness in Beijing on 5 April, and who was hospitalized in Beijing hospital on 7 April and was subsequently transferred to another hospital on 14 April. The patient is receiving intensive care.

On 23 April, WHO reported the existence of three other cases:

1. A 26-year-old female student who was carrying out research activities in the National Institute of Virological Research in Beijing, who is a native of Anhui province: This second probable case developed symptoms on 25 March and admitted to the same Beijing hospital where the 20-year-old nurse was working as part of the primary-care team tending to her. According to the current status of the ongoing research, this appears to be the index case for the outbreak.
2. The mother of the female researcher, who lives in Anhui, developed symptoms compatible with SARS on 8 April and was admitted to a hospital there, where she died on 19 April.
3. A 31-year-old male researcher from the National Institute of Virological Research in Beijing, who developed symptoms on 17 April, was hospitalized and was put into isolation on 22 April. The data on how he and the female researcher developed symptoms seem to indicate that they were exposed to the virus at different times.

On 26 April, WHO reported the existence of 4 new cases still classified as probable, all of whom have had close contact with the 20-year-old nurse who took care of the female student in the Beijing hospital. These new cases all appeared in Beijing, with the onset of symptoms between 16 and 19 April. One of them is in critical condition; the rest are stabilized.

On 28 April, the Chinese authorities reported to WHO the detection of yet another SARS case, as yet unconfirmed. This new case involves a 49-year-old female doctor who was

admitted to the same hospital as the nurse, but for another reason. She began to develop symptoms compatible with SARS on 19 April and was transferred to a hospital in Ditan and put into isolation.

On 29 April, WHO announced the confirmation of 2 cases related to the nurse by reason of clinical profile, laboratory results and epidemiological linkage. Both belong to the third generation of cases.

Conclusions

These are the first SARS cases since January of this year, when the Guangdong authorities reported the existence of 4 cases (3 confirmed and 1 probable) where the probable source of infection was environmental.

If it is indeed determined that the source of infection was the National Institute of Virology in Beijing, this will be the first outbreak caused by laboratory transmission. This kind of event probably produces a different pattern of illness and transmission. In September and December 2003, 2 cases were reported (in Singapore and Taiwan) where the source of infection was associated with a laboratory. Both cases recovered completely and there wasn't any further transmission.

In the current outbreak, all the cases are linked to chain of transmission, which indicates transmission involving close personal contact. There is no evidence of widespread airborne transmission in the community, although some recent studies suggest that this type of event could have occurred in last year's outbreak.

To date, a total of 9 cases and 1 death have been reported. Of the 9 cases, 2 have been confirmed and 7 are as yet unconfirmed, since the WHO surveillance guidelines stipulate that to classification as confirmed cases requires independent verification of laboratory test results by an external international reference laboratory. Of these 9 cases, 7 are from Beijing and 2 from Anhui.

Nearly 1,000 close contacts have been identified that are now under observation, 70% of them in Beijing and 30% in Anhui. WHO recognizes the possibility of additional exposure having taken place, since the patients were treated in 7 different hospitals (5 in Beijing and 2 in Anhui) and 2 of the people involved had traveled within the country over a wide area. The Chinese authorities have intensified surveillance and follow-up activities with these contacts, besides taking various environmental samples from the places where the cases occurred to determine the source of infection.

Additional Information

- [Severe Acute Respiratory Syndrome \(SARS\): WHO Guidelines/Recommendations/Descriptions](#). Geneva: World Health Organization (WHO).
- Yu, Ignatius T.S. et al. (2004) [Evidence of Airborne Transmission of the Severe Acute Respiratory Syndrome Virus](#). *N Engl J Med* 350: 1731-1739.

Source: [Severe Acute Respiratory Syndrome \(SARS\)](#). Geneva: World Health Organization (WHO).

