Brief of SARS Cases Related to Union Hospital

Summary

The New Territories East Regional Office (NTERO) of the Department of Health (DH) received reports of four cases of SARS related to Union Hospital (UNH) from 22 February to 25 April. The NTERO carried out prompt investigation on each case and conducted medical surveillance for their contacts. The UNH was contacted for investigation and infection control.

Two of the SARS cases involved a 49-year-old American Chinese female tourist from the United States (Case 1) and a 29-year-old female nurse working in UNH (Case 2) who had taken care of Case 1. NTERO investigated into the cases and traced the contacts of the cases promptly upon notification on 22 and 28 February. They recovered uneventfully. Contact tracing, revealed that a 42-year-old female relative of Case 1 who had traveled to Guangzhou with the case also developed SARS.

The other two SARS cases involved two nurses (Case 3 and Case 4) (female, 32 and 39 years old) working in the ward and out-patient clinic of UNH respectively. They had onset of symptoms on 22 March and 4 April and were admitted to UNH and Prince of Wales Hospital (PWH) on 25 March and 8 April respectively. They had probably acquired the infection separately from an in-patient and Amoy Gardens. Both of them recovered uneventfully. NTERO followed up their contacts and found that none of them developed SARS.

Below is a summary of the cases and the actions taken by NTERO.

Case 1:

BB [redacted] was a 49-year-old American Chinese living in the United States for more than ten years. She came back to Hong Kong on 30 January 2003 and traveled to Henan 河南區, Guangzhou to visit her mother from 31 January to 17 February 2003. [redacted] BB [redacted] developed fever and cough on 16 February while in Guangzhou. Her symptoms persisted after consulting doctor in the Mainland and she was admitted to the UNH on the day of return from Guangzhou on 17 February 2003. CXR findings were compatible with pneumonia. She was treated with Tamiflu, several antibiotics and intravenous immunoglobulin but the condition deteriorated with respiratory failure.

She was transferred to the PWH ICU on 22 February. Sputum specimen showed the presence of *Spenotrophomonas*. Her condition improved gradually and discharged home on 7 March. She was later diagnosed to have SARS. Paired serum samples were received by GVU from UNH on the 9 April. The sera were taken on the 18 Feb and 4 March. The titres for SARS CoV were <25 and 3200. She was then diagnosed SARS.

BB BB

PWH reported [redacted] as a case of atypical pneumonia to NTERO by fax on 22 February. NTERO carried out epidemiological investigation and contact tracing on the same day. It was noted that four relatives of [redacted] joined her in Guangzhou during her stay there. Contact tracing revealed that one of them (42-year-old female) developed SARS. The results of contact tracing are summarized in Table 1. During [redacted]'s stay in UNH,

BB

she was taken care of by Case 2 from 17-22 February. Case 2 was subsequently diagnosed to be a SARS case. A chronology on Cases 1 & 2 is given at Table 2.

Case 2:

[redacted], a nurse in UNH, developed malaise on 22 February followed by myalgia, cough, fever and chills two days later. She was admitted to PMH from 27 February to 5 March. CXR showed right middle zone consolidation. Sputum specimen showed the presence of white cells and commensals. She recovered and was discharged home on 5 March. Paired serum samples were received by GVU from UNH on the 9 April. The sera were taken on the 25 February and 2 April. The titres for SARS CoV were <25 and 400. She was then diagnosed as SARS.

NTERO received report of [redacted] as a case of severe community acquired pneumonia from PMH on 28 February. NTERO carried out epidemiological investigation and contact tracing on 28 February. Contact tracing revealed that she had taken care of Case 1 daily from 17-22 February in UNH. Otherwise, none of her eight close contacts (husband, daughter, domestic helper, parents-in-law and family of brother-in-law) developed pneumonia. NTERO contacted UNH on 28 February for medical surveillance of the staff and patients exposed to Cases 1 & 2 and noted that none of the contacts developed atypical pneumonia.

Case 3:

UNH Nurse X [redacted], a nurse in UNH, developed fever, cough, myalgia and chills on 22 March. She was admitted to UNH on 25 March and transferred to PMH for further care on 27 March. She was finally discharged on 25 April. Her nasopharyngeal aspirate for coronavirus test was positive.

PMH notified DH on 30 March and NTERO carried out epidemiological investigation and contact tracing promptly on the same day. It was noted that [redacted] UNH Nurse X had taken care of a SARS patient on 18/3 in UNH. She had likely contracted SARS from this patient. Her husband who was the only close contact was asymptomatic at the end of the surveillance period. NTERO contacted UNH promptly upon notification and noted that all staff had taken respiratory precautions and no persons exposed to [redacted] UNH Nurse X developed atypical pneumonia.

Case 4:

UNH Nurse Y [redacted] worked in the out-patient department (OPD) of UNH. She developed fever, chills, rigors and on 4 April. She later developed shortness of breath and was admitted to PWH on 8 April. After admission, she also had diarrhoea. Her condition became stable after treatment with Ribavirin and she was subsequently discharged from hospital on 4 May.

UNH Nurse Y [redacted] was notified to DH as a case of SARS on 25 April. NTERO carried out epidemiological investigation promptly upon receipt of report. [redacted] was interviewed by DH on the same day. She probably contracted SARS from Amoy Gardens shopping mall where she had visited twice from 25/3 to 8/4. Contact tracing revealed that none of her five close contacts (husband, daughters, son and domestic

UNH Nurse Y

helper) were symptomatic. By the time DH started investigation on 25 April, it was more than two weeks since her last day of work in UNH on 8 April. NTERO contacted the UNH OPD on 25 April and found that no staff was affected.

Actions Taken by NTERO:

1/. Physicians-in-charge, patients and all the contacts were interviewed promptly for detailed clinical and travel history.

2/. Co-ordinated the information flow between different hospitals.

3/. Active medical surveillance of close contacts.

4/. UNH was contacted promptly for investigation and medical surveillance.

5/. Health advice was given to contacts (respiratory precautions, disinfection and management of symptoms).

Table 1: Summary of the Clinical History of the four contacts of Case 1 [redacted] BB

Name	[redacted]	[redacted]	[redacted]	[redacted]
Sex / Age	M/41	F/42	F/7	F/40
Ethnicity	Chinese			
Relationship	[redacted]'s brother BB	Wife of [redacted] BB's brother	Daughter of [redacted] BB's brother	Sister of [redacted] wife of BB's brother
Occupation	Restaurant worker	Housewife	Student	Housewife
Residential Address	Lung Heung Estate, Shatin			
Past health	Well	Well	Well	Well
Date of onset	20 Feb	21 Feb	21 Feb	20 Feb
Symptoms	Cough and sorethroat	Fever and cough	Fever and sorethroat	Myalgia
Duration of hospitalisation	22nd to 24th Feb (PMH)	22nd to 24th Feb (PMH)	22nd to 26th (PMH)	22nd to 24th Feb (PMH)
Outcome	Recovered	**Diagnosis: SARS,** Recovered	Recovered	Recovered
History of travel to Guangzhou	12th to 17th Feb	15th to 17th Feb	15th to 16th Feb	15th to 16th Feb
Laboratory Investigation (Virus)	NPA IF negative (PWH)	NPA IF negative (PMH)	NPA IF negative (PMH)	NPA IF negative (PMH)

Table 2 Chronology on 2 Cases of Atypical Pneumonia (Case 1: [redacted] & Case 2: [redacted])

Date	Event
30 Jan	➢ 49 y.o. American Chinese female [redacted] living in Philadelphia, Untied States. Arrived HK from US.
31 Jan	➢ [redacted] arrived in Henan, Guangzhou to visit mother. Four relatives from HK joined her in Guangzhou. **(Note 1)**
16 Feb	➢ [redacted] had onset of fever, myalgia, cough.
17 Feb	➢ [redacted] arrived HK. Admitted to Union Hospital. Chest X-ray showed consolidation in mid and lower zones of both lungs compatible with pneumonia. Sputum culture yielded Gram negative bacilli. Blood investigation revealed normal white cell count, lymphocyte 12.3% and ESR of 114. She was treated with Tamiflu, antibiotics and intravenous immunoglobulin.
22 Feb	➢ [redacted] was transferred to the Intensive Care Unit (ICU) of Prince of Wales Hospital (PWH) because condition deteriorated with respiratory failure. ➢ PWH A&E Department reported [redacted] by fax to NTERO as a case of atypical pneumonia. The Gram negative bacilli in the sputum specimen taken at Union Hospital was later confirmed to be *Spenotrophomonas*. According to the attending physician, the bacterial infection was likely to be hospital acquired. ➢ NTERO started case investigation and contact tracing. All contacts were put under medical surveillance.
22 Feb	➢ Nurse ([redacted]) at Union Hospital who had taken care of [redacted] developed symptoms of fever, malaise, cough, myalgia, chills and diarrhoea.
27 Feb	➢ [redacted] was admitted to Princess Margaret Hospital (PMH). Chest X-ray showed pneumonic consolidation at right mid zone. White cell count was low ($3.0x10^9$/L) and lymphocyte was $0.4x10^9$/L. She was treated with Tamiflu, intravenous and oral antibiotics.
28 Feb	➢ NTERO received report of [redacted] as a case of severe community acquired pneumonia via NTWRO. The case was reported by PMH to NTWRO through DPCD. ➢ NTERO started case investigation and contact tracing. All the contacts were asymptomatic at the end of the surveillance period.
4 Mar	[redacted] was transferred from ICU to general medical ward as condition improved.
5 Mar	[redacted] was discharged home.
7 Mar	[redacted] was discharged home.

Note 1: Two (F/42 and F/7) of the four relatives of [redacted] who had joined her in Guangzhou for different periods of time developed fever and cough or sore throat on 21 February. The 42-year-old female relative ([redacted]) was admitted to PMH and later confirmed to be a SARS case.

New Territories East Regional Office
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