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Archive Number 20030613.1453

Published Date 13-JUN-2003

Subject PRO/EDR> SARS - worldwide (145): cases

SARS - WORLDWIDE (145): CASES

A ProMED-mail post

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In today's update:

- [1] Canada - MMWR
- [2] USA - MMWR
- [3] UK - HPA mild infections?

[1]
Canada

Date: 13 June 2003

From: ProMED-mail <promed@promedmail.org>

Source: Morbidity & Mortality Weekly Report 13 Jun 2003 /
52(23);547-550

<<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5223a4.htm>>

Update: Severe Acute Respiratory Syndrome --- Toronto, Canada,
2003

Severe acute respiratory syndrome (SARS) was first recognized in Toronto in a woman who returned from Hong Kong on 23 Feb 2003 (1). Transmission to other persons resulted subsequently in an outbreak among 257 persons in several Greater Toronto Area (GTA) hospitals. After implementation of provincewide public health measures that included strict infection-control practices, the number of recognized cases of SARS declined substantially, and no cases were detected after 20 Apr 2003. On 30 Apr 2003, the World Health Organization (WHO) lifted a travel advisory issued on 22 Apr 2003 that had recommended limiting travel to Toronto.

This report describes a second wave of SARS cases among patients, visitors, and health-care workers (HCWs) that occurred at a Toronto hospital approximately 4 weeks after SARS transmission was thought to have been interrupted. The findings indicate that exposure to hospitalized patients with unrecognized SARS after a provincewide relaxation of strict SARS control measures probably contributed to transmission among HCWs. The investigation underscores the need for monitoring fever and respiratory symptoms in hospitalized patients and visitors, particularly after a

decline in the number of reported SARS cases.

During 23 Feb - 7 Jun 2003, the Ontario Ministry of Health and Long-Term Care received reports of 361 SARS cases (suspect: 136 [38 percent]; probable: 225 [62 percent]) [see Figure 1 at weblink above for epidemic curve - Mod.MPP]; as of 7 Jun 2003, a total of 33 (9 percent) persons had died. Of 74 cases reported during 15 Apr - 9 Jun 2003 to Toronto Public Health, 29 (39 percent) occurred among HCWs, 28 (38 percent) occurred as a result of exposure during hospitalization, and 17 (23 percent) occurred among hospital visitors [see Figure 2 at weblink above]. Of the 74 cases, 67 (90 percent) resulted directly from exposure in hospital A, a 350-bed GTA community hospital.

The majority of cases were associated with a ward used primarily for orthopedic patients (14 rooms) and gynecology patients (7 rooms). Nursing staff members used a common nursing station, shared a washroom, and ate together in a lounge just outside the ward. SARS attack rates among nurses assigned routinely to the orthopedic and gynecology sections of the ward were approximately 40 percent and 25 percent, respectively.

During early and mid-May [2003], as recommended by provincial SARS-control directives, hospital A discontinued SARS expanded precautions (i.e. routine contact precautions with use of an N95 or equivalent respirator) for non-SARS patients without respiratory symptoms in all hospital areas other than the emergency department and the intensive care unit (ICU). In addition, staff no longer were required to wear masks or respirators routinely throughout the hospital or to maintain distance from one another while eating. Hospital A instituted changes in policy on 8 May 2003; the number of persons allowed to visit a patient during a 4-hour period remained restricted to one, but the number of patients who were allowed to have visitors was increased.

On 20 May 2003, 5 patients in a rehabilitation hospital in Toronto were reported with febrile illness. One of these 5 patients was determined to have been hospitalized in the orthopedic ward of hospital A during 22-28 Apr 2003, and a second was found on 22 May 2003 to have SARS-associated coronavirus (SARS-CoV) by nucleic acid amplification test. On investigation, a second patient was determined to have been hospitalized in the orthopedic ward of hospital A during 22-28 Apr 2003. After the identification of these cases, an investigation of pneumonia cases at hospital A identified 8 cases of previously unrecognized SARS among patients.

The first patient linked to the second phase of the Ontario outbreak was a man aged 96 years who was admitted to hospital A on 22 Mar 2003 with a fractured pelvis. On 2 Apr 2003, he was transferred to the orthopedic ward, where he had fever and an infiltrate on chest radiograph. Although he appeared initially to respond to antimicrobial therapy, on 19 Apr 2003, he again had respiratory symptoms, fever, and diarrhea. He had no apparent contact with a patient or an HCW with SARS, and aspiration pneumonia and *Clostridium difficile*-associated diarrhea appeared to be probable explanations for his symptoms. In the subsequent outbreak investigation, other patients in close proximity to this patient and several visitors and HCWs linked to these patients were determined to have SARS. At least one visitor became ill before the onset of illness of a hospitalized family member, and another visitor was determined to have SARS although his hospitalized wife did not.

On 23 May 2003, hospital A was closed to all new admissions other

than patients with newly identified SARS. Soon after, new provincial directives were issued, requiring an increased level of infection-control precautions in hospitals located in several GTA regions. HCWs at hospital A were placed under a 10-day work quarantine and instructed to avoid public places outside work, avoid close contact with friends and family, and to wear a mask whenever public contact was unavoidable. As of 9 Jun 2003, of 79 new cases of SARS that resulted from exposure at hospital A, 78 appear to have resulted from exposures that occurred before 23 May 2003.

Reported by: see original on web.

MMWR Editorial Note:

On 14 May 2003, WHO removed Toronto from the list of areas with recent local SARS transmission because 20 days (i.e., twice the maximum incubation period) had elapsed since the most recent case of locally acquired SARS was isolated or a SARS patient had died, suggesting that the chain of transmission had terminated. Before recognition of the second phase of the outbreak, the most recent case of locally acquired SARS in Toronto was reported before 20 Apr 2003. However, unrecognized transmission, limited initially to patient-to-patient and patient-to-visitor transmission, apparently was continuing in hospital A. After directives for increased hospitalwide infection-control precautions were lifted, an increase in the number of cases was observed, particularly among HCWs.

The findings from this investigation underscore the importance of controlling health-care--associated SARS transmission and highlight the difficulty in determining when expanded precautions for SARS no longer are necessary. Investigations in Canada and other countries have identified HCWs to be at increased risk for SARS, and methods for performing surveillance among HCWs have been recommended (2). The Toronto investigation suggests that unrecognized patient-to-patient and patient-to-visitor transmission of SARS might have been occurring with no associated cases of HCW illness until after a provincewide lifting of the expanded precautions for SARS. Transient carriage of pathogens on the hands of HCWs is the most common form of transmission for several nosocomial infections, and both direct contact and droplet spread appear to be major modes for transmitting SARS-CoV (3). HCWs should be directed to use gloves appropriately (e.g., change gloves after every patient contact and avoid their use outside a patient's room) and to pay scrupulous attention to hand hygiene before putting on and after removing gloves.

In addition to active and passive surveillance for fever and respiratory symptoms among HCWs, early detection of SARS cases among persons in health-care facilities in SARS-affected areas is critical, particularly in facilities that provide care to SARS patients. Identifying hospitalized patients with SARS is difficult, especially when no epidemiologic link has been recognized and the presentation of symptoms is nonspecific. Patients with SARS might develop symptoms common to hospitalized patients (e.g., fever or prodromal symptoms of headache, malaise, and myalgias), and diagnostic testing to detect cases is limited. Available nucleic acid amplification assays for SARS-CoV have reported sensitivities as low as 50 percent (4). Although serologic testing for SARS-CoV antibody is available, definitive interpretation of an initial negative test requires a convalescent specimen to be obtained greater than 21 days after onset of symptoms (5).

Several potential approaches for monitoring patients might improve recognition of SARS in hospitalized patients. A standardized assessment for SARS (e.g., clinical, radiographic, and laboratory criteria) might be used among all hospitalized patients with new-onset fever, especially for units or wards in which clusters of febrile patients are identified. In addition, some hospital computer information systems might allow review of administrative and physician order data to monitor selected observations that might serve as triggers for further investigation.

The Toronto investigation found early transmission of SARS to both patients and visitors in hospital A. In areas affected recently by SARS, clusters of pneumonia occurring in either visitors to health-care facilities or HCWs should be evaluated fully to determine if they represent transmission of SARS. To facilitate detection and reporting, clinicians in these areas should be encouraged to obtain a history from pneumonia patients of whether they visited or worked at a health-care facility and whether family members or close contacts also are ill. Targeted surveillance for community-acquired pneumonia in areas recently affected by SARS might provide another means for early detection of these cases.

The findings from the Toronto investigation indicate that continued transmission of SARS can occur among patients and visitors during a period of apparent HCW adherence to expanded infection-control precautions for SARS. Maintaining a high level of suspicion for SARS on the part of health-care providers and infection-control staff is critical, particularly after a decline in reported SARS cases. The prevention of health-care-associated SARS infections must involve HCWs, patients, visitors, and the community.

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ProMED-mail
<promed@promedmail.org>

[2]

USA

Date: 12 Jun 2003

From: ProMED-mail <promed@promedmail.org>

Source: Morbidity & Mortality Weekly report 13 Jun 2003 /

Update: Severe Acute Respiratory Syndrome --- United States,
June 11, 2003

During November 1, 2002-June 11, 2003, a total of 8,435 probable SARS cases were reported to WHO from 29 countries, including 70 from the United States; 789 deaths (case-fatality proportion: 9.4 percent) have been reported, with no SARS-related deaths reported from the United States (1).

In the United States, a total of 393 SARS cases have been reported from 42 states and Puerto Rico, with 323 (82 percent) classified as suspect SARS and 70 (18 percent) classified as probable SARS (i.e., more severe illnesses characterized by the presence of pneumonia or acute respiratory distress syndrome) (2). Of the 70 probable patients, 68 (97 percent) had traveled to areas with documented or suspected community transmission of SARS within the 10 days before illness onset; the remaining 2 (3 percent) patients were a health-care worker who provided care to a SARS patient and a household contact of a SARS patient (3). Of the 68 probable SARS cases attributed to travel, 35 (51 percent) patients reported travel to mainland China; 17 (25 percent) to Hong Kong SAR, China; 5 (7 percent) to Singapore; one (1 percent) to Hanoi, Vietnam; 14 (21 percent) to Toronto, Canada; and 5 (7 percent) to Taiwan; of these, 7 (10 percent) reported travel to more than one of these areas.

Serologic testing for antibody to SARS-CoV has been completed for 134 suspect and 41 probable cases. None of the suspect cases and 8 (20 percent) of the probable cases have demonstrated antibodies to SARS-CoV, 7 of which have been described previously (3).

The 8th serologically confirmed probable SARS case occurred in a North Carolina [USA] resident who traveled to Toronto, Canada, on 15 May 2003 and visited a relative in a health-care facility on 16 and 17 May 2003. The relative's hospital roommate and another visitor in the room during these visits both subsequently had SARS diagnosed. The patient returned to the USA on 18 May 2003, and had a fever on 24 May 2003, followed by respiratory symptoms. He was treated as an outpatient for these symptoms beginning on 27 May 2003, and a chest radiograph on 3 Jun 2003 documented pneumonia. The patient has remained in isolation at home. All of the exposed health-care workers and family contacts are under active surveillance for SARS.

Serologic testing on this patient was negative for antibody to SARS-CoV at day 10 of illness and positive at day 11. SARS-CoV RNA was not detected by RT-PCR in nasopharyngeal and oropharyngeal swabs collected from the patients 11 days after onset of symptoms.

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ProMED-mail
<promed@promedmail.org>

[3]

UK

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Date: 12 Jun 2003
From: ProMED-mail <promed@promedmail.org>
Source: UK Health Protection Agency Press release 12 Jun 2003
<http://www.hpa.org.uk/news/120603_sars.htm>

Laboratory testing for SARS shows people with mild illness have been exposed to the virus. 12 Jun 2003

In a new development in testing for SARS in the UK, the Health Protection Agency has found antibodies to the SARS coronavirus in samples taken from 2 people who had had only mild illness. [How confident are they that these are not false positive results? - Mod.JW]

Since receiving these positive laboratory results, local investigations have been undertaken to check that these people had recovered and that none of their close contacts have suffered any clinical symptoms of SARS-like illness in recent weeks. Local health protection teams are satisfied that there has been no ongoing public health risk.

The development is a significant step in building knowledge about the behaviour of the SARS coronavirus. A great deal of further research needs to be carried out before any conclusions can be reached, but the finding suggests that there is a spectrum of SARS illness, with a few people only experiencing a very mild illness before complete recovery.

Dr Maria Zambon of the HPA's Central Public Health Laboratory said "Since early March [2003], we have been carrying out continuous testing on patients who were classified as probable and suspected cases of SARS and of the 4 probable cases currently listed, one was recently reported as testing positive. In addition to this, we have also received samples from patients with milder symptoms who had all travelled to areas where SARS cases have been reported, but are thought to have had limited opportunity for exposure to the virus. This testing has been undertaken as part of our precautionary approach to SARS, because so little was known about the extent to which infection with the SARS coronavirus might be associated with mild symptoms."

"2 such people have tested positive for SARS corona virus through showing an antibody response to the virus. This shows that these individuals have almost certainly been exposed to the virus, and have had a mild illness but have now fully recovered."

One further case who required hospitalisation has also tested positive for antibodies to SARS coronavirus and has since recovered. Although these people have almost certainly been exposed to the SARS coronavirus, they have not been classified as probable cases of SARS as they don't meet the case definition in terms of either severity of symptoms or travel history"

Dr Zambon concluded "It is still early days in terms of testing for SARS coronavirus, and these results show that there is a great deal we still don't understand about the spectrum of illness caused by infection with this virus. The majority of people tested so far have been very sick in hospital and these latest results may represent cases at the more mild end of the spectrum. Further testing and research is needed worldwide before we find out if there are more people who may have suffered a similar mild illness. We are likely to find this out in areas where there has been local transmission of SARS and more people have come into contact with the infection. We will be sharing our data with WHO's international laboratory collaboration to see if other countries have had similar cases."

Notes to Editors

The HPA has also received 2 further positive antibody results on UK citizens, who were ill whilst outside the UK and were tested on their return. These people are now recovered and they have been reported to the countries where they were ill and will not be reported as UK probable cases. [see report of 2 cases in the Philippines in yesterday's update (144) [1][A] footnote (1) - Mod.MPP]

While 3 probable SARS cases have tested negative for SARS corona virus (see second paragraph), WHO advise that they should remain in the probable category, as we have no other laboratory explanation for their illness.

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ProMED-mail
<promed@promedmail.org>

[The report on the ongoing outbreak of SARS in Toronto is a sobering reminder of the difficulties in detection of cases in the absence of an immediately apparent epidemiologic link to other cases. It begs the question at what point in time following presumed/apparent interruption of transmission in an area that had had local transmission (greater than or equal to 20 days, using the standard "2 incubation periods" for the definition) an area can presume that atypical pneumonias are most probably not due to SARS and therefore SARS level infection control procedures can be dropped. Not an easy question to answer given the observed recurrence of active transmission in Ontario.

The finding of 2 cases of mild respiratory illness in the UK with positive serology for recent SARS associated coronavirus infection is not surprising. Most diseases have a wide spectrum of clinical presentation from the asymptomatic and or mild presentations to the very severe and fatal presentations. The absence of documented transmission of the virus to others from these mild cases is reassuring, albeit it is a small number of patients (2) so caution is necessary in interpreting this observation. Serosurveys in areas that have had local transmission will be of interest in attempting to identify the proportion of infections that are mild or asymptomatic. -
Mod.MPP]

[see also:
SARS - worldwide (144): cases [20030613.1451](#)
SARS - worldwide (143): cases [20030611.1441](#)
SARS - worldwide (142): cases [20030610.1434](#)
SARS - worldwide (141): cases [20030609.1423](#)

SARS - worldwide (140): cases [20030608.1419](#)
SARS - worldwide (139): cases [20030607.1409](#)
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[20030502.1103](#)
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[20030316.0660](#)
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Acute respiratory syndrome - Canada (Ontario) [20030314.0631](#)
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Acute respiratory syndrome - China (HK), VietNam (03)
[20030313.0624](#)
Undiagnosed illness - Vietnam (Hanoi): RFI [20030311.0595](#)
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