An Acdemic Report for Writing Class

A preliminary Research on Severe Acute Respiratory Syndrome

Harry G. Xu

May 5th ,2002

ABSTRACT

In the last few months, a new disease of great infectivity, called Severe Acute Respiratory Syndrome, has swept many countries and areas in the world, especially HongKong, TaiWan and the mainland of China which leads to a very severe consequence for its strong infectivity, fatal ruin to the respiratory system and still unknown aetiology that since the very begginning of this year, there have been totally more than 300 people killed, about 3,000 people put in hospital and almost 10,000 people isolated from the outside world for their close contacts with those found with SARS.

Since there has been a great anti-SARS action nation wide in China, we just make a preliminary indroduction to SARS, and how to avoid the disease to make people know some important features of the disease and how to protect themselves.

KEYWORDS

SARS , Severe Acute Respiratory Syndrom , pneumonia , immune system , virus attack

1. Introduction to Severe Acute Respiratory Syndrom

This chapter aims at telling people the basic knowledge on SARS and the situation about spreading of SARS in China including HK and TaiWan.

1.1. What's SARS?

Severe acute respiratory syndrome (SARS), an atypical pneumonia of unknown aetiology, is a respiratory illness that has recently been reported in Asia, North America, and Europe.

1.1.1. Symptoms of SARS and How contagious is SARS

In general, SARS begins with a fever greater than 100.4°F [>38.0°C]. Other symptoms may include headache, an overall feeling of discomfort, and body aches. Some people also experience mild respiratory symptoms. After 2 to 7 days, SARS patients may develop a dry cough and have trouble breathing.

Based on currently available evidence, close contact with an infected person is needed for the infective agent to spread from one person to another. Contact with aerosolized (exhaled) droplets and bodily secretions from an infected person appears to be important. To date, the majority of cases have occurred in hospital workers who have cared for SARS patients and the close family members of these patients. However, the amount of the infective agent needed to cause an infection has not yet been determined.

1.1.2. Possible cause of SARS

Scientists at CDC and other laboratories have detected a previously unrecognized coronavirus in patients with SARS. The new coronavirus is the leading hypothesis for the cause of SARS.

1.2. The situation of spread of SARS worldwide

From 1 February to 24 March, 456 cases including seventeen deaths have been reported. In the early stages the symptoms are similar to those of many diseases including influenza. Heightened awareness about the disease, and the vigilance of health authorities around the world, have resulted in a close watch for suspected cases and rapid and thorough reporting. Not all of these suspected cases may prove to be SARS. There are many reports and rumours coming in from around the world, but quite a few of these will turn out to be normal wintertime activity of diseases like influenza whose early symptoms are similar. The cumulative number of cases and deaths is continuously updated on the WHO web site .

In addtion, As of 24 March, cases had been reported from thirteen countries. Of these, four countries have only imported cases with no documented local transmission, indicating that the disease is not spreading in these countries and residents are not at risk.

1.3. What is the treatment for SARS

While some medicines have been tried, no drug can, at this time, be recommended for prophylaxis or treatment. Antibiotics do not appear to be effective. Symptoms should be treated by adequately protected health professionals. As a result of good supportive care, some patients in Hanoi have been transferred from critical care wards to regular wards.

2. What should people do in order to avoid SARS

2.1. For patients

Patients should be placed in an isolation unit. Strict respiratory and mucusol barrier nursing is recommended. It is very important that suspected cases are separated from other patients and placed in their own hospital room. Health care workers and visitors should wear efficient filter masks, goggles, aprons, head covers, and gloves when in close contact with the patient.

2.2. For individuals who think they might have SARS

People with symptoms of SARS (fever greater than 100.4°F [>38.0°C] accompanied by a cough and/or difficulty breathing) should consult a health-care provider. To help the health-care provider make a diagnosis, tell them about any recent travel to places where SARS has been reported or whether there was contact with someone who had these symptoms

2.3. For healthy people

2.3.1. Wearing masks

Mouth-mask helps despite it is not 100 effective. But it can still decrease the chance from infection.

2.3.2. Keeping a good mode at every moment

Make sure you get enough sleep and don\'t make yourself so stressful! Anxiety, depression, and tried will influence your body\'s stress hormones (e.g. catecholamine and glucocorticoids) and so suppress your immune status.

No intense physical activities during this critical period! It has been shown that intense exercise will suppress your immune function (related to the upper respiratory infection) even several days following your workout.
Instead of intense exercise, light-to-moderate workout helps if you have been training regularly.

2.3.3. Eating healthy food to strengthen immune system

1) Antioxidant nutraceuticals: Antioxidants are chemicals found in foods which exert a great value in strengthening our immune system. Boost up your immune function by taking a cocktail of antioxidant supplements.

2) - Let green tea to be your daily beverage because it contains tremendous amount of antioxidant flavonoid, catechins.
-Eat more tomatoes, broccoli or fruits and vegetables in red and dark green color. They carry a huge amount of antioxidant carotenoids, lycopene and carotene.

3) Make sure you get enough carbohydrate foods (e.g. rice, food concentrated in starch... etc) because carbohydrate is the primary food for immune cells . Do some Gatorade or Pocari if needed since they are both good sources of carbohydrate.

3. Research on SARS worldwide

3.1. WHO(World Health Organiztion)

- Sent teams to disease spreading areas .
- Made Case definitions for surveillance of SARS.
- Compiled first data on stability and resistance of SARS coronavirus in WHO laboratory network

3.2. CDC(Centers for Disease Control and Prevention)

CDC is working closely with the World Health Organization (WHO) and other partners in a global effort to address the SARS outbreak. For its part, CDC has taken the following actions:

- Activated its Emergency Operations Center to provide round-the-clock coordination and response.
- Committed more than 300 medical experts and support staff to work on the SARS response.
- Deployed medical officers, epidemiologists, and other specialists to assist with on-site investigations around the world.
- Provided ongoing assistance to state and local health departments in investigating possible cases of SARS in the United States.
- Conducted extensive laboratory testing of clinical specimens from SARS patients to identify the cause of the disease.
- Initiated a system for distributing health alert notices to travelers who may have been exposed to cases of SARS.

4. Refrence

[1] WHO "Frequently Asked Questions on Severe Acute Respiratory Syndrome (SARS)" website of WHO www.who.int

[2] Parco M. Siu, MPhil "Anti-SARS Suggestions "

[3] WHO "Case definitions for surveillance of SARS, revised 1 May" website of WHO www.who.int

[4] CDC "What Everyone Should Know" website of CDC http://www.cdc.gov/ncidod/sars/